

The Influence of Socio-psychological factors on Housing Tenure Decisions
among British Young Adults

This thesis is submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

by

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February 2018

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Abstract

Housing is one of the most debated topics in any economy and particularly in the advanced economies. It is seen to be an influential factor in people's social and family life. The housing market in the UK has had different price cycles in the past four decades and this had led to problems of tenure choice, wealth and housing imbalance among generations. More specifically, recent changes in tenure trends indicate that young adults are most likely to be caught in the middle between the decision of owning or renting (privately or socially). As the private rented sector continues to grow, young adults are mostly now found in the sector while home ownership has been shifting to older age groups. In the past, the literature had largely focused on the econometrics context on one end and the critical context on the other.

This thesis, therefore, introduces a socio-psychological dimension to the econometric context; by investigating additional drivers applicable from individual social capital and neighbourhood contexts. Major empirical analyses involved the use of the quantitative approach to explore secondary data sources, such as the British Household Panel Survey and the British census and deprivation data to ascertain these factors as they associate with tenure shifts. These entailed (multi-level) logistic regressions of time to housing tenure decisions among British young adults, with the inclusion of interactions between their individual social capital and neighbourhood-level features in the models. Findings indicate that the interactions between economic and socio-psychological factors are important in helping to explain tenure shifts. It is also suggested that the private rented sector growth is likely to continue, at least to the medium-term amidst slow economic recovery, young adults' cautiousness and strong support for home ownership. Consequently, home grown and adulthood socio-psychology are likely to continue as additional contributions to housing tenure decisions in British housing.

Acknowledgements

Immense gratitude goes to my academic supervisors Professor Chris Leishman and Professor Neil Dunse for their contributions and support throughout the PhD. Special thanks to Chris Leishman for his unrelenting support and encouragement at each stage of this thesis. I would like to also extend the gratitude to all at Heriot-Watt University in the School of Engineering, Geoscience, Infrastructure and Society (including the IT and admin) for your unwavering assistance and contributions in one form or the other. Without your individual and collective assistance, this PhD research would not have been successful. Also, I am very grateful to the School of the Built Environment (now School of Engineering, Geoscience, Infrastructure and Society) for awarding me the fee-waiver scholarship for this PhD research.

I am also grateful to the UK Data Service for providing access to some key data for this research. I especially appreciate their helpdesk for processing my data request promptly and efficiently.

Big thanks to my friends and office mates for their support. I also appreciate Abi and Oluwaseun for your diverse contributions, support and friendship throughout my study. And to everyone that has contributed in one form or another towards an active social life, including PhD social gatherings, games, competitions and parties, I say thank you. Participating in these activities helped me in keeping up with a positive state of mind and body throughout the study.

Very special respect goes to my parents and siblings for their fantastic moral support, love and belief in me. I would like to thank my parents for always keeping up with the progress of my thesis and ensuring that my wellbeing is not jeopardized. I am eternally grateful for the kind gesture.

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Glossary of terms

ECHPS:	European Community Household Panel Survey
EDAs:	Education Deprived Areas
EHCS:	English House Conditions Survey
ESRC:	Economics and Social Research Council
EUSILC:	European Union Statistics on Income and Living Conditions
FTBs:	First-Time Buyers
GFC:	Global Financial Crisis
GHS:	General Household Survey
GLHS:	German Life History Study
GSS:	General Social Survey
HALCS:	Housing and Location Choice Survey
HAs:	Housing Associations
HDAs:	Housing Deprived Areas
HFCS:	Household Finance and Consumption Survey
HIES:	Household's Income and Expenditure Survey
HILDA:	Household Income and Labour Dynamics
HMRC:	HM Revenue and Customs
HO:	Homeownership
HOLK:	Swedish Housing and Life Course Cohort Study
KLIPS:	Korean Labour and Income Panel Study
LAD:	Local Authority District
LAs:	Local Authorities
LSOA:	Lower Super Output Area
MEM:	Marginal Effect at the Mean
NCDS:	National Child Development Study
NHS:	National Housing Survey
NKPS:	Netherlands Kinship Panel Study
NSG:	Neighbourhood Statistics Geography

NS-SEC:	National Statistics Socioeconomic Class
NYLS:	National Youth Longitudinal Survey
OAs:	Output Areas
OLS:	Ordinary Least Square
ONS:	Office for National Statistics
PC:	Principal Component
PCA:	Principal Components Analysis
PH:	Parental Housing
PRS:	Private Rented Sector
PSID:	Panel Survey of Income Dynamics
RMS:	Regulated Mortgage Survey
rrr:	Relative Risks Ratio
RTB:	Right to Buy
SEH:	Survey of English Housing
SHARE:	Survey of Health, Ageing and Retirement in Europe
SHIW:	Survey of Household Income and Wealth
SLS:	Scottish Longitudinal Study
SML:	Survey of Mortgage Lenders
SOAs:	Super Output Areas
SOEP:	German Socioeconomic Panel
SR:	Social Renting
SRS:	Social Rented Sector
TPB:	Theory of Planned Behaviour
UK:	The United Kingdom
UKHLS:	UK Household Longitudinal Study
US:	The United States
WAS:	Wealth and Assets Survey
YPH:	Years lived in a Parental Homeownership

1 Introduction

1.1 Housing availability in the UK

Housing is one of the most debated topics in any economy and particularly in the advanced economies. It is seen to be an influential factor in people's social and family life. The housing market in the UK has undergone different cycles in the past four decades and this has led to problems of tenure choice, wealth and housing imbalance among generations. Over a decade ago, Kate Barker emphasized on the demand for housing rapidly outgrowing its supply in the UK (Barker, 2004). Barker's review of housing supply describes issues relating to tackling both short and long-run supply of housing. The long-run supply is seen to be highly dependent on the housebuilding industry which in turn is dependent on other issues relating to land and planning controls. The planning system in the UK has been a major concern in the slow response of housebuilding to housing supply in the UK. Barker (2006) and Cheshire and Sheppard (2005) highlighted the need for a more flexible approach to planning in the UK housing market. The low response of housing supply means that the available stock of housing becomes unaffordable as a result of the short supply being oversubscribed by high demand.

The UK housing market had undergone many real price cycles in the past few decades. Looking back in time, although house prices have been on the increase since post-war, housing market affordability has been a big issue right from the eighties. Inequality in the UK housing market can be observed in several facets such as region, age, income and wealth. Hamnett (1991)'s description of the age and regional inequality in the UK housing market are considered useful, although the research has been highly criticized for the prediction on the UK as a nation marked for the high rate of inheritance in the future. However, the wealth differences between generations cannot be overlooked and there are several forms of housing inheritance and a growing dependence on this among young individuals. Beer and Faulkner (2011) discussed extensively the issues and necessary interventions linked to a housing crisis in relation to young adults and older cohorts in three nations – Australia, UK and the US. Although the study seems very close to capturing the whole idea of intergenerational imbalance between generations in the housing market, the 'life course transition' described in the study is largely an Australian study, and has a weak link between past housing schemes and housing policy changes. Also lacking in the study is the clear distinction between the effects of past housing experiences and the effects of tenure selection. Interestingly, Beer and Faulkner (2011) showcase the stability of the proportion of owner-occupiers among young adults in Australia since the sixties, while

the same group are now found to lose their stay in owner-occupation due to some life events. This finding is quite different from the general knowledge that young adults are finding it difficult to access owner-occupation in several housing markets. Furthermore, the study argued that there is a situation of inequality between generations as a result of more opportunities for the young adults at the expense of the mid-aged cohorts while acknowledging the wealth accumulated by the older cohorts. In the UK, there is the likelihood that the current housing regime has fuelled the opportunities for older cohorts while increasing the risks for young adults. This housing market trend has a substantial explanation for the reshaping of the housing tenure outlook.

Issues of housing affordability are known to have deepened in the UK. The question of whether recent policies are effective for a longer term approach to solving the housing crisis especially among the UK young adults has been raised in Rugg and Quilgars (2015). This is because young adults are seen to be worst hit by the housing crisis and are affected by a deepening intergenerational disparity and this makes the relationship between demographics and housing a very vital one for any housing analysis. For instance, Rugg and Quilgars (2015) show that only the older cohorts (aged 65 and over) rose significantly in the percentage of home ownership between 2012 and 2008, while the mid-aged group's percentage in owner-occupation dropped, and the worst hit are the young adults. Conversely, there is a turn-around trend with Myers and Ryu (2008)'s noting that there is a three times likelihood of older age groups selling their houses than buying. These findings suggest rapid changes in the housing market requiring further largescale investigation and projection. Certainly, older cohorts may have to release their housing equity at some point in the future.

The British government is known to be backing a stronger growth for the private rented sector (PRS) but also with plans towards helping a few young adults to access homeownership. Arguments that policies have helped the PRS to grow can be found in some UK literature. Prominent among these are Kemp (2009) on the introduction of a rent allowance scheme as a strong factor for the transformation of the PRS; and Rugg and Quilgars (2015) on the effect of limited tenure alternatives as a factor that helped the PRS to grow. However, there has been little efforts to prove that and there has not been a successful and consistent housing policy to support these claims (Rugg and Quilgars, 2015). Clapham et al. (2014) points to the high level of instability and uncertainty among the young adults in the private rented sector – a situation that is likely to worsen their prolonged family formation and contribute further towards their loss of hopes of homeownership.

1.2 Housing need, supply and the resulting additional areas for discussion

Housing demand and need have been a long-recognised critical issue in the UK. Housing supply, on the other hand, has been a major issue over the last two decades in the UK. In England, additional housing provision remains short by about 50000 units in 2015/16 (Wilson et al., 2017). The demand for housing is, however, different from the need for housing. Bramley et al. (2010) defines housing demand as the total amount of housing that is being requested by households, given their choices and ability to pay. The two concepts (i.e. demand and need) share a common attribute of those most affected – the young adults. Evidence of the need for housing is defined as levels of unaffordability; longer stay in parental home; shared living; congestion and destitution (Bramley et al., 2010, Wilson et al., 2017). However, contrary to the arguments surrounding housing need as the key problem, Barker (2004) argued that the inability of the low rate of housing supply to keep up with increasing demand may have been the most significant contributor to the housing crisis though worsening affordability problem. Aside supply-side factors, Barker argued that house price growth has also been seen to be highly driven by individuals/households' inherent favouritism towards homeownership, which is further fuelled by popular government policies (such as Right to buy and taxation¹) and the perception of housing as an investment.

On the supply side, following the Barker review, the release of land for building has been emphasized as the major planning intervention necessary for the improvement on housing availability and house prices in England (Bramley, 2007). But aside the complexities of the land-use planning system, Adams et al. (2009) argued that the housebuilding process in Britain is significantly influenced by house price speculation, thereby resulting in a slow response to housing delivery regardless of a hypothetical improvement in land supply. A reduction in house prices (as in the case of the 2008 GFC²) for instance tends to hamper suppliers' market certainty. On the other hand, inflation in house prices without real change in income could discourage eligible FTBs. The eligible FTBs (i.e. mostly young adults) remain strongly in favour of homeownership despite constrained supply. Their quest for homeownership is mostly disadvantaged by affordability and accessibility, thereby they have had to resort to private renting in recent years. Other determining factors of young adults' housing choices include expected mobility, job insecurities and household formation and changes. However, aside the widening intergenerational disparity in the housing market, there is yet the issue of intra-

¹ An example is the Mortgage Interest Tax Relief at Source (MIRAS). See chapter 2

² GFC means Global Financial Crisis.

generational disparity stemming from intergenerational assistance for housing. This suggests that we cannot ignore some other latent determining factors of housing decisions defined in changing behavioural patterns and socio-psychological dimensions.

1.3 The literature gap

Explorations of housing tenure decisions among young adults have mostly taken an econometric approach, with a focus widely on economic and demographic influences on tenure decisions. Some theoretical arguments have also emerged suggesting political and socio-psychological influences. The socio-psychological influences refer to credible links emanating from behavioral differences and attitudes towards housing decisions. These behavioral patterns have been gaining attention in recent times but are yet to be fully tested in an econometric context of housing tenure transitions. Discussions on intergenerational assistance have also grown in the last couple of years as part of the econometric literature on housing tenure decisions although still lacking in the wider context in the UK. Arguments had also emerged in the literature on the reasons for the growing Private Rented Sector (PRS). However, credible socio-psychological influences on housing decisions for young adults in Britain need to be investigated further. This is particularly driven by the growing ‘preference’ for the PRS as against pursuing house purchase, while some others are determined to get on the housing ladder regardless of unfavourable conditions of accessibility.

The UK is currently distinctive for this study as it has recently undergone some unique changes in the housing tenure distribution, the trend toward rising wealth inequality between and among generations, and the rapid rise of the PRS. As Clapham (2005) argued, housing research still lacks a deeper understanding of subjectivity in housing decision-making. In view of these concerns, this research therefore sets out to investigate socio-psychological influences on young adults’ tenure decisions in Britain. The next section further describes the aim and objectives in detail.

1.4 Aim and objectives

The aim of the research, therefore, is to test the influence of socio-psychological behaviour on housing tenure decisions, particularly among British young adults. In order to accomplish this aim, the following objectives are set:

1. To review and synthesize the literature that deals with the UK housing system in relation to individuals’ and households’ tenure decisions.

2. To review the societal norms among young adults over time, and to examine the conditions under which individuals' behaviour can be affected or influenced.
3. To evaluate the extent to which housing inheritance and financial assistance (expectation) can influence the competitive strength of young adults in the housing market.
4. To establish a set of socio-psychological drivers of housing tenure decisions; and to develop a conceptual framework and empirical testing approach that will be used to test the established set of hypotheses.
5. To test the socio-psychological drivers of housing tenure decisions among the UK young adults using the BHPS/USOC in models of tenure choice.
6. To analyse and draw conclusions on the strength of socio-psychological influences on young adults' housing tenure decisions in the UK.

1.5 The thesis structure

Based on the objectives set out in section 1.4, this thesis is set up to implement the tasks in the simplest way possible, as described below:

- Chapter 2 provides a literature review on housing tenure patterns and drivers of tenure choice, thereby serving objective 1. It specifically reviews the different housing tenure patterns in the UK, and how these have been influenced by different factors.
- Chapter 3 reviews and explores household housing wealth and intergenerational assistance. Objective 2 aims to review societal norms and how individuals' behaviour may have been affected by unmeasured social standards. Hence, the chapter investigates the link between intergenerational assistance and parental and relatives' wealth which goes a long way in enhancing transfers or assistance for housing.
- Further societal norms and socio-psychological drivers are established in chapter 4, thereby addressing objective 3. The chapter explores data and literature that suggest path-dependency and neighbourhood effects as contributors to the eventual outcomes of young people. Chapter 4 further addresses objective 4a by establishing a set of socio-psychological drivers of housing tenure decisions.

- To serve objective 4b, chapter 5 describes the methodology and develops an empirical testing approach of the time taken to tenure transition among young adults. The datasets specifically required for testing the socio-psychological drivers (objective 4) are further discussed in chapters 5.
- Chapter 6 tests social capital drivers exclusively alongside other established drivers in multinomial logistic regression models, thereby establishing the testing approach developed in chapter 5. The procedure involved tracing the BHPS respondents from 1991 to 2014/2015 inclusive. This partly takes care of objective 5.
- Chapter 7 goes further to provide other details on the specific range of datasets in use and as well fully tests the socio-psychological drivers of tenure decisions in multilevel regression models. The chapter further analyses and provides results on the strength of socio-psychological drivers on young adults' housing tenure decisions.
- The thesis ends in chapter 8 with conclusions drawn through reflections on the research findings, their implications and recommendations.

2 Housing tenure decisions in the UK

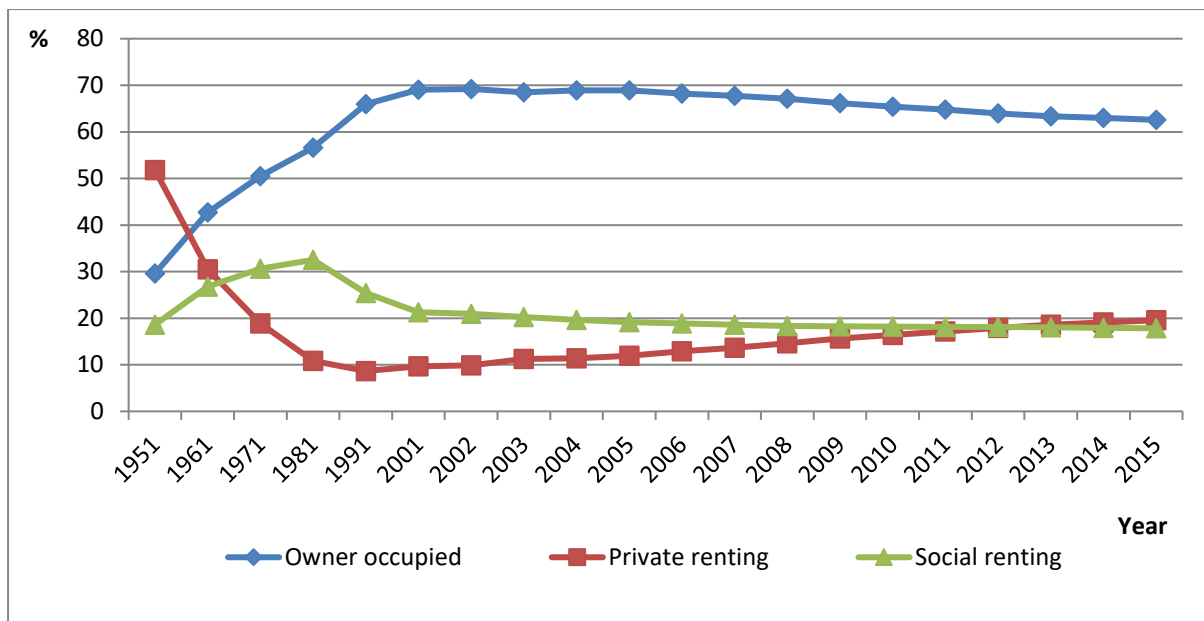
2.1 Introduction

This chapter discusses the changes that have occurred in the UK housing tenure system from the immediate post-war era to date. It summarises the three major tenures in the UK housing market, which are owner-occupation, social renting and private renting. Although council housing and housing association are quite different, they are usually categorized as social housing. Similarly, there have been several forms of private rental and home ownership arrangements over the years. The chapter then goes further to discuss the scope of the influences of decisions on housing tenure particularly among young adults in the UK. After this, the behavioural patterns in housing decision making are reviewed from the literature and a detailed gap in knowledge is identified. The aim and objectives of this thesis including what to expect as results are discussed afterwards. The chapter ends with conclusions.

2.2 The UK housing tenure pattern

The United Kingdom has a long history of housing tenure change dating back to the pre-war periods. It is convenient to study the form of housing tenure system in Britain from the end of First World War period onwards. In the 1920s, Britain was mainly a nation of renters where about 80 percent of the population rented privately. The Housing Act of 1919 brought about the introduction of council houses and the construction of houses by the local authorities increased greatly into the 1930s. The growth was further enhanced by an improved economy, lower inflation and mortgage rates. The Second World War hindered the growth trend and it then picked up in the 1950s by building more council housing. This trend continued with a combined growth in the building of private housing into the sixties, hence resulting in the shrinking of the private rented sector at this time (see figure 2.1). Up to this point, only the well-to-do owned their own houses despite increasing aspirations to become home owners. Dating back from the post-war period to date, owner-occupation, private and social renting have remained the three major types of housing tenure in the UK albeit with regional differences.

Figure 2.1: Housing stock by tenure in Great Britain (1951-2015)



highest Source: Office for National Statistics (2016a)

2.2.1 Owner-occupation

Owner-occupation has the share of tenure in the UK today, although this has not always been the case (as shown in figure 2.1). There was a growth in owner-occupation in the post-World War II era. This expansion was not limited to the UK, as it also grew in dominance over other tenures in some other European countries (Norris and Winston, 2012). The literature argues that the cause of the rise of owner-occupation is divided between the changing aspects of the economy driven by capitalism and governance on one side and the impact of psychological choice on the other. This is particularly evident from the past housing regimes in Britain. Longley et al. (1991) strongly attributed the changes in homeownership between the post-war periods and the late seventies to the impact of government interventions through certain key policies that included tax reliefs in favour of homeowners and expenditure on housing conditions. These factors have a huge role to play in shaping the ideologies and motivations of individuals and households. Ball (2013) on the other hand noted that other strong influences such as the improved economy, increased mortgage availability and lower interest rates have received much less credit for the changes, due to the publicity of policymakers.

In addition a totally different view arose during this period of the favouritism towards owner-occupation. There seemed to be a growing psychology that owner-occupation is preferred to renting (Saunders, 1990). In the context of this work, the argument appears to be associated with the popularity of the tenure particularly among young adults and that their choices were a

product of government housing systems put in place. Strong evidence to partly support this notion is that the proportion of home ownership in a country is not necessarily a reflection of the country's virtual changes in wealth. Kemeny (2006) made this conclusion from the research on the scope of rental systems in some countries in Europe. An example was given of Germany showing that a nation's housing system could be guided to a large extent by government regulations and planning, and still reflect a certain ideology that renting is not far worse compared to owning. However, it is pertinent to note that Germany is different to the UK in several ways. For instance, German cities were totally rebuilt after the war and consequently heavily planned. It is therefore not surprising to see that their housing systems are heavily regulated and planned. For Saunders (1990), individual satisfaction, born out of others' experiences holds a ground in the sociological point of view. This viewpoint is not unconnected to political and economic influences. However, the contrasting views on the rise of home ownership in the UK post-war period should not be worrisome as these factors seem to have a connection between them.

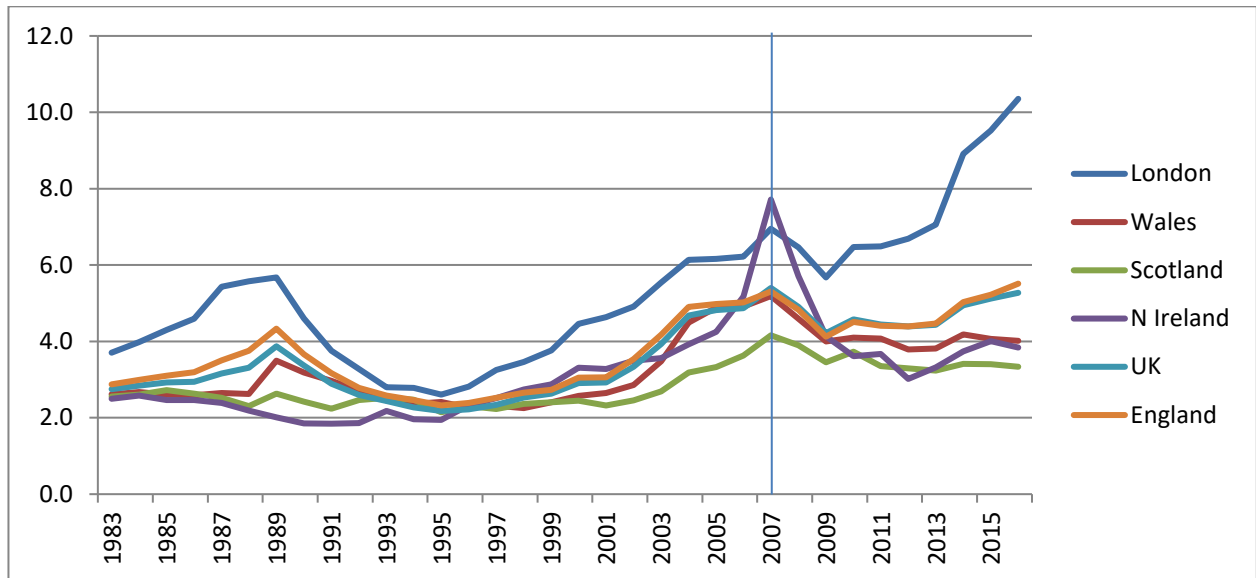
House prices have been rising from the seventies onwards (mostly as a result of a high preference for homeownership). During the 1970s there were negative interest rate and a housing boom but also a notable borrowing limits imposition by lenders. Lenders often rationed for reasons largely attributable to loan defaults (Muellbauer and Murphy, 1997). Consequences of this resulted in higher number of potential FTBs unable to access homeownership. This led to increasing income and wealth disparity. Another important issue in the 1970s was the active existence of ³Mortgage Interest Relief at Source (MIRAS) also known as mortgage interest tax relief. This was introduced to improve on homeownership. It was with these policy measures that housing market experienced a further steady rise in demand in the eighties.

The 1980s also saw the impact of Thatcher's regime on the UK housing. According to Ball (2013), her policies further propelled home ownership in the midst of poor economic conditions. Financial liberalisation was introduced to adjust the interest rates and this also brought about speculative behaviour in the housing market. The policy also aimed to reduce dependence on the social welfare system and make more people work towards achieving a common goal of owning their own homes. In a way, it was also realistic to reserve a notion that the psychological preference for homeownership partly stimulated the drive towards the 1980 Housing Act that introduced the right-to-buy and was not entirely attributable to the economy.

³ MIRAS was introduced in 1983 in the UK in order to encourage homeownership.

The rise in house prices started becoming unbearable in the late eighties. During this period of recession, housing accessibility and housebuilding rates lowered while house prices had risen beyond real wages and inflation rates. There were regional differences. London region stands out consistently in housing affordability over time and was only below Northern Ireland in 2007. It has grown ever since to 10.4 in 2016.

Figure 2.2: Regional house price to earnings ratio for first-time buyers



Source: Nationwide (2016)

Monetary policy introduced in the 1980s was to set Britain as an asset-based welfare state that materialised into economic growth and council residents were able to own their own homes. However, this had its consequences both in the 1989 and 2007 recessions. As a result, a recent paper (Montgomerie and Büdenbender, 2015) argued that the UK's homeownership policy system is not the solution to national well-being. Some proponents of the asset-based welfare system, such as Elsinga and Hoekstra (2005) and Doling and Elsinga (2006) otherwise believe that the asset-based welfare system had more benefits than its detriments. Government policies certainly helped with the growth of homeownership rates at the expense of other housing tenures, and Bramley and Morgan (1998) suggest that this type of approach sets the UK apart from many other countries. These arguments would only sound unique before the last economic bust. Furthermore, we cannot be certain that the supposed satisfaction derived by beneficiaries of the system is connected to their quality of housing or socioeconomic status, as these forms of satisfaction can also be found among non-homeowners. Hence, the personal satisfaction may be psychological in nature and therefore excludes the negative macro-level consequences.

2.2.2 *Social renting*

Social housing in the UK consists majorly of Housing Associations⁴ (HAs) and ‘Local Authorities⁵ (LAs)’ housing. However, the HAs did not come into existence until the late seventies, subsequent to LAs housing introduction back in the early twenties. The role of social housing from the seventies onwards changed significantly compared to the post-war period (Hills, 2007). Housing policies introduced in the post-war regime included the provision of affordable housing mainly by the public and was targeted at the low-income group. Introduction of right-to-buy⁶ (RTB) policy in 1980 had a dramatic effect on the social sector housing. From this time onwards, local council tenants were given the opportunities to own their own homes at government-subsidized rates. (See Jones and Murie (2006) for a detailed analysis of the housing policy).

Contrasting views have emerged afterwards as to the changes that occurred in the UK housing. Malpass and Victory (2010), Pawson (2006) prefer to use the term ‘modernisation’ to the term ‘restructuring’ by Murie (1997). The restructuring point of view sees the social sector reform as the act of cutting public spending through privatisation, reflecting the combination of policies, and not just solely based on the RTB scheme. Also included in the argument is the government’s preference toward HAs in preference to the diminishing and out of favour LA’s housing. In contrast, Malpass and Victory (2010) see changes in the social rented sector as a gradual change from public housing supply to private supply, where the former strictly involved state provision and the latter is currently a form of public-private partnership. Although Pawson (2006) concluded that the use of the term ‘privatisation’ for the change process remains open to debate; the supposed privatisation of social housing may have also contributed to growing arguments concerning the affordability and accessibility of the sector in recent times. Nevertheless, both views acknowledge the existence of stigmatisation attached to the conventional social welfare system ideology, and as part of the psychological degradation that gave rise to the homeownership mentality, resulting from the first move for a change in the 1980s.

Another view of the restructuring of the welfare state in Stephens and Fitzpatrick (2007) sees the need for the government to reach a compromise with its people before radical

⁴ A type of social housing in the UK and Ireland, and operated by some nonprofitmaking private body.

⁵ LAs are the main providers of council housing in the UK and are the government body (by local boroughs) providers of these.

⁶ RTB was introduced in the UK during the Margaret Thatcher regime.

implementation of policies, especially in the 1980s. Increased wealth disparity and consequently, increased destitution and other consequences were argued to be products of departure from the welfare-based system in the UK. Nonetheless, complexities arise in the attempt to make a connection between the traditional welfare system and destitution. This is because poverty and deprivation are not new and had always followed economic changes over time. More so, some argue that the current stock of social housing is targeted at the vulnerable, as opposed to increasing misuse of welfare in the welfare-based era (Ball, 2013). Even so, homelessness is still seen to be on the rise. Indeed, MacLennan and More (1997) suggested about two decades ago for the need to have a continued provision of social housing and at the same level of effectiveness as private housing initiatives. However, the political response to societal transformations and globalisation means that a balance in housing provision had proven difficult to reach. To this end, the redefinition of housing policies over time strongly reflects changes in societal mentality and norms.

2.2.3 Private renting

Private renting in the UK dates back to the pre-World War I era whereby people mostly lived in this tenure. Council housing was introduced partly in response to the perceived failure of the private rented sector. Hence, the private rented sector suffered decline from the introduction of council housing and the increasing growth of owner-occupation. Private renting became the smallest tenure for the first time in the sixties. The sector continued its decline through to the end of the 1980s and then picked up growth again in the 1990s. The growth of the sector since then has been attributed to reforms and flexibility in the sector, given that it is often seen as a temporary tenure (Kemp and Keoghan, 2001), especially for owner-occupation or social renting aspirants. This is because there are less financial commitments in advance compared to home purchase and also fewer eligibility requirements for entry compared to social renting. The introduction of ‘Assured Shorthold Tenancy’ in 1988 is mostly seen as the biggest catalyst for the pickup of the tenure (Ball, 2004). The policy brought the deregulation of the private rented sector and allowed a mutual agreement on rental price between landlords and tenants.

The question that has been repeatedly asked is if the sector will continue to grow? Increasing house prices in the 2000s brought about investments in the sector through buy-to-let landlords who are there to either store their wealth or make capital gains from the sector. The consequence was increasing wealth gap among generations. It is possible that with house prices and access to mortgage finance cyclical in nature this trend could be reversed. However, in the past decade that has seen recession and mortgage market crackdown the sector has

continued to grow. Other factors such as the original deregulation of the sector (e.g. the introduction of Assured Shorthold Tenancy) which brought about more flexibility may still have a strong influence on the continued growth of the sector.

The continued drop in social renting and owner-occupation can also be argued as another reason for the growth of the private rented sector. Figure 2.1 shows that owner-occupation had declined more than social renting from the mid-noughties onwards. Aside from these trends, the UK economy had recently picked up from the recession and it is expected that there will be changes in the sector growth. However, the dominance of young adults in the sector is of increasing interest and it seems as if the homeownership mentality is fast diminishing. One would ask: are young people no longer aspiring to own their homes as they used to? Flexibility and lifestyle are said to play a key role in the size of the private renters (Ball, 2004, Bentley, 2015). Nevertheless, Bentley (2015) counter-argued that recent research into the sector suggests that young adults are only delayed in the sector. Putting these arguments together suggests a stronger need to gain more understanding of the property market and to consider other influences that may be driving these young adults' decision on tenure.

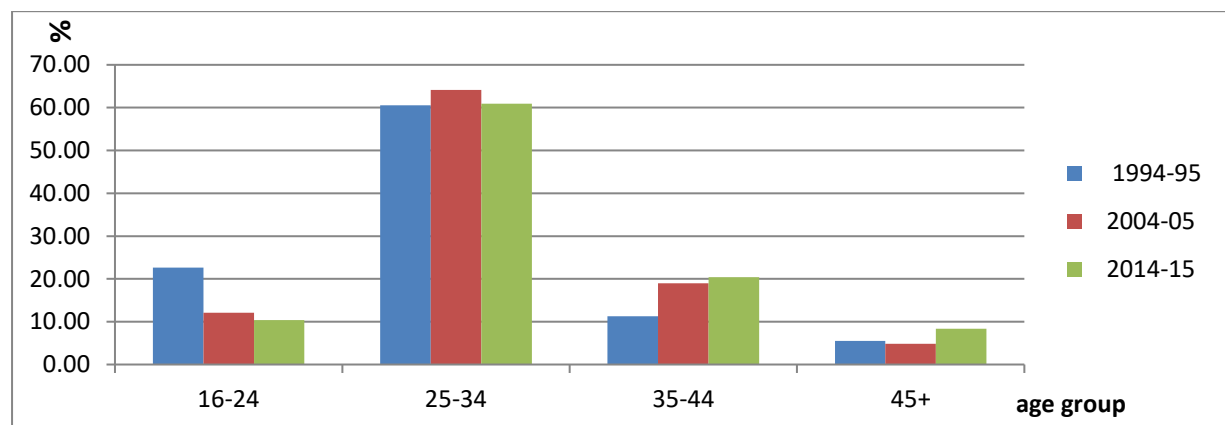
2.3 Scope of knowledge and direction of tenure decision influences among young adults in British housing

In the last three decades, tenure choice determination for individuals and households has been largely seen in terms of the neoclassical point of view. That is consumers are able to maximise their satisfaction by making their choices rationally. Other views are not excluded. According to Clapham (2005), theoretical housing studies so far have concentrated on the state control, spatial or geographical approach, neoclassical approach and the growing sociological views. Among the front-runners of tenure choice modelling is the static model put forward by Henderson and Ioannides (1983). The model is premised on the knowledge that housing is both a consumption and investment good, with income and wealth as the basic determining factors of tenure. A recent study by Łaszek (2013) further demonstrated the complexity of housing choices in consumer's theory of consumption and savings. This complexity has led to different dimensions to the factors contributing towards housing tenure choices among young adults.

Jansen et al. (2011) tried to distinguish between housing preference and the actual choice of the housing. These two concepts can be very different but can, however, mean the same thing. Choice of housing is said to reveal the combined influences of housing market situations, government policies, preference, accessibility and other subjective influences like the way of

life and social status of an individual or household. Hence the preference for a particular type of housing may only be part of the reasons for the choice. It is, however, evident that young people may be mostly streamlined to the tenure that is accessible to them. It is therefore imperative to emphasize the importance of decision making among this group, rather than their ability to choose. This is because the eventual housing tenure of a household/individual may be taken out of choice, preference or both, all connected by the final decision. In essence, although a small category among them may still have the ability to choose among the available tenures, a majority of young people are now more likely making decisions based on the already identified influences.

Figure 2.3: Percentage of first-time buyers by age group



Source: Margoles and Frankenburg (2016), figure 1.2

Young adults seem to be the best focus group for discussions on housing tenure decisions in the UK for a few reasons. The changes in the UK economy and living standards have largely affected young adults more than other age groups (Belfield et al., 2015a and b). In addition they are the group that dominate First Time Buyers (FTBs) over time (see figure 2.3). This is not surprising, as the life stage is realistically the right time to form a household and decide on housing. Although the average age of FTBs has been concentrated among the 25-34-year-olds over time (see figure 2.3); there has been a stepped drop in the percentage of those aged 16-24 and with a corresponding rise in those aged 35-44. It could also be observed from figure 2.3 that the percentage of those aged 35-44 increased by the same value of the decrease in those aged 16-24 from 2005 to 2015. A higher decrease during this period can also be observed among those aged 25-34, signifying an upward shift in the average age of FTBs. There is, therefore, an apparent need to explore the influences on housing tenure decisions among British young adults; more so because owner-occupation has been falling at the expense of

private renting from the mid-noughties onwards (see figure 2.1). Choice and decision-making may be used interchangeably in this context of housing tenure among young adults; however, the author prefers decision-making when referring to young adults' actions on housing tenure in recent times.

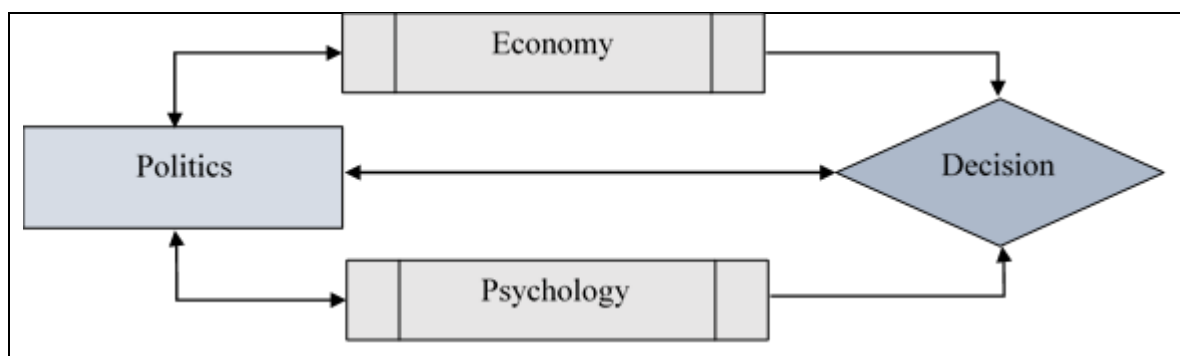
2.3.1 Political influences on housing tenure decision

Changes in political and government controls in the UK over the last one hundred years have contributed greatly to the shape of the housing sector over time. As discussed earlier, philosophical changes have led to political adjustments in the housing sector; and these are also largely connected to people's will and aspirations. Voters' appeals emanate from societal changes (which may be economic, social or political) and consequently reflected in the decisions taken by policymakers. The direction of housing supply in the British housing system since Margaret Thatcher's regime could be viewed as six distinct periods. The first period (starting from the early 80s) brought financial liberalisation and the task of putting inflation under control. Included in the task was the need for economic growth that would bring greater income expectations. The growing support for homeownership also led to the introduction of the RTB policy supported by generous financial inducements. This opened up a new period in the middle to the late 80s when the sale of council houses rose considerably. According to Stephens and Elsinga (2008), the RTB policy period combined with the economic restructuring at that time led to unfavourable labour market conditions and general loss of interest in social housing. However, economic growth undoubtedly occurred in the 80s but fell again into the 90s.

The third period started in the 90s and was about rebuilding Britain's economy with respect to the European Union through trade expansion and internationalisation. This period saw improvements in trade relations between Britain and the European Union countries. Ease of financial restrictions in the international market further reflected in the UK housing market in through increased accessibility to mortgage credit. However, the continued attraction towards homeownership and increasing demand partly led to increasing house prices in the short term. The short-term shortage in housebuilding was also a compounding effect in the housing market (Chandler and Disney, 2014). Housebuilding became a very important issue in housing supply in the late 90s to early noughties. The realisation of this influenced Kate Barker's report on the supply of housing in 2004.

Barker's report (Barker, 2004) entailed an attention towards ensuring an improvement in the UK housing both in the short and long run. The short-run measures proposed were largely related to the review of macroeconomic policies to help put demand and supply of housing under control. On the other hand, long-term policies proposed included improved housebuilding rates and the more flexible availability of land for housing. The post-Barker review saw the start of another era of increased availability of sub-prime mortgage lending alongside improved housebuilding. Nevertheless, housebuilding was unable to address increasing unaffordability and housing wealth disparity. This trend continued until another global economic crisis struck in 2007, thereby leading to a downturn in the UK housing market. Chandler and Disney (2014) reported that subsequent government policies relating to UK housing have included mortgage assurances, equity mortgages and a renewed RTB. As the economy slowly recovered from the last economic recession, these measures are a pointer to the direction of government's plans in this sixth period, leaning heavily towards improving on the declining homeownership rates. However, both measures put in place so far, either by reducing certain qualified FTBs' required deposits or increasing discounts for the RTB (only in England and Wales) failed to show positive signs in improving housing affordability.

Figure 2.4: 3-way interaction from politics to the eventual housing tenure decision



Source: Author's own figure

A 3-way interaction seems to have evolved over time which summarises the influence of politics on British housing tenure decisions: the direct effect; the connection through economic conditions; and connection through voters' mindset. In figure 2.4, the 3-way interaction shows how politics exchange with both economy and psychology sub-processes in opposite directions; and how the three processes individually feed into the decision on housing tenure.

The introduction of housing policies to cater for low-income groups, and even more recently, the most vulnerable groups, means that these sets of households have been provided with a choice directly by the government. This is indicative of the changing ability to choose a particular housing tenure over time, and therefore represents a first type of impact on eventual housing decisions. The provision of housing by LAs and HAs is a suitable example of this direct political impact. The second form is through the interchange between economics and politics. Housing policy measures in the past have included the building of new and affordable houses; provision of financial assistance including subsidies and incentives; and changes in regulations through lower taxes and interest rates (Mullins et al., 2006). These measures have had a large impact on households willing to own their own homes and are able to finally settle for their desired choices from indirect policy measures in form of financial assistance. Alternatively, certain economic conditions, for instance, unaffordability of housing had influenced policy measures to bolster house purchase. An example of this is the current ‘shared ownership’ and ‘help-to-buy’ schemes heavily aided by the government. But these schemes which are relatively small in scale and tailored to assist mostly FTBs have not had much impact (Hay and Friederike, 2015).

The third type of impact is the interchange between psychology and politics. A cyclical pattern of choice could be analysed from past interventions by the central government (Nigel and Nida, 2013). An example of this is the period preceding the 1980s when homeownership was becoming popular and of greatest interest as the most preferred form of tenure to live in. The mindset was easily spread and largely contributed to the use of MIRAS as subsidies for owner-occupation. Ford and Burrows (1999), however, argued that the use of MIRAS partly brought about unsustainability in the growth of owner-occupation which was further reflected in the high volume of foreclosures in the wake of the early 90s recession. Middle to low-income earners that were assisted into homeownership may have been unable to cope with the turn of events in the economy. Alternatively, housing market speculations, through the announcement of an end to MIRAS in the 1990s may have come from the adjustments made to housing price inflation in 1988 (Forrest and Murie, 1994). Subsequently, households outside owner-occupation felt disadvantaged and at loss for not being assisted into the housing tenure.

2.3.2 Economic influences on housing tenure decision

Previous studies have claimed that the affordability problem in the UK housing today has its source deeply rooted in the escalating house prices without the corresponding increase in real income levels. This seems to be mostly suffered by the young adults in recent times. Andrew

and Meen (2003) observed the sharp drop in homeownership rates in the nineties and found out from panel data survey that young individuals have been partly affected by changes in the income distribution. The study suggests a perceived change in young individuals' accessibility towards home ownership as opposed to much older age groups. This change is also consistent with other research such as in Robst et al. (1999) in the US and Gathergood (2011) in Britain where insecurity of income was tested as a likely external factor inducing young individuals to embrace the rented sector in the same period. This demonstrates how economic risk plays a huge factor in tenure decisions among young adults and also extends to their rational behaviour. In their analysis of economic restraints as contributors to tenure choice, Di Salvo and Ermisch (1997) made use of a dynamic model to investigate the influence of economic factors on tenure choice among British households. The study drew on fifties birth data to analyse the tenure choice between owner-occupation and social renting which were the predominant tenures at that time. The findings suggest that the economic factors, such as their permanent income, unemployment situations and house price levels have influences on the decisions and timing of the housing tenure among young households.

The mortgage market, on the other hand, is also having a great deal of input on tenure decisions. Home mortgage and down payments are highly related to house prices. A US study of the American Housing Survey in 1995 by Quercia et al. (2003) revealed that mortgage providers are able to relax their borrowing procedures which in turn increase the number of eligible borrowers. In other words, changes in affordability requirements such as down payments, income and housing cost requirements as against lower interest rate could be of great impact on credit accessibility for households. However, young adults are likely to have become more cautious in taking steps to homeownership considering the contributions of past mortgage products to the global economic crisis, including their level of work uncertainty and house price volatility.

Poor credit check was found to be a big hindrance for homeownership among mid-life cohorts in the US National Youth Longitudinal Survey (NYLS) (Calem et al., 2010). The changes in time could be noted after the recent financial crisis of 2007 - young adults as against the mid-life cohorts are now the highest number of victims of the mortgage crisis. Issues arising as a result of economic and market influence within a generation seem to be evident in this regard, but one cannot deny the wider generational difference within the present housing market compared to the past. Furthermore, from the study of the British Household Panel Survey (BHPS), Andrew and Pannell (2006) and Andrew (2012) found that the increasing house prices

and credit tightening partly delayed the young adults from timely homeownership. Although the actions and adjustments of the mortgage market seem to be a direct reflection of economic and housing market changes, this research and finding seem to follow the path of the previous study without the extent of the impact of credit tightening.

The recent lower interest rates have not helped the affordability situation as a result of a corresponding increase in down payment requirements. Lower interest rates are usually used as a tool to increase owner-occupation. However, this procedure was aimed at existing mortgage owners and this could partly explain the reasons for continued lower demand for a mortgage from eligible FTBs after the global financial crisis. Although house prices deflated at a point and picked up again, the reduction in prices hampered suppliers' market certainty. On the other hand, inflation in house prices could discourage eligible FTBs. The UK housing tenure has seen a continuous increase in the private rented sector and with a proportionate decrease in owner-occupation. Although interest rates are low, those who already own homes are able to take advantage of it to buy other houses at the expense of would-be FTBs. This trend consequently fueled the inter-generational gap in the British housing market. This inter-generational gap reflects the wealth inequality between generations and thus raises the question of how strong the relationship is between the widening disparity and the potential for intergenerational assistance.

The majority of these economic issues have been well detailed in Jones (2016). The study compared conditions in the UK housing market before and after the global financial crisis of 2007-2008. In the run-up to the crisis, a falling interest rate and housebuilding, alongside increasing loan-to-value ratio and longer mortgage duration provided by lending institutions saw a consequential upsurge in house prices. This trend was followed by an increasing house price to earnings ratio and young people were mostly the victims in terms of housing accessibility. The PRS may have also become tenure of last resort for those that are unable to gain access to the tenure of their choice. Jones (2016) concluded that the original choice of most young adults may be disappearing fast as a result of the various economic and housing market limitations they continue to face. It is, however, not clear whether this suggests that they have finally settled for the PRS or still treat this tenure as temporary. This is because although they tend to find themselves either staying longer in their parental housing or the PRS in recent times, their original housing aspirations are likely to remain strong.

2.3.3 Demographic influences of housing tenure decision

The path to young adults' eventual tenure decision and the contributing factors seem to be changing substantially in the past generation. With the increasing private rented sector, the tenure seems to be gaining importance as the surest transition tenure for young adults and households. Older cohorts like those born in the fifties and sixties (baby boomers) have a huge part to play in the analysis and understanding of the changes involved. This is because inequality in wealth and affordability in the UK housing market has greatly expanded over time. Unlike before, when people were being encouraged to buy into rising house prices, the advice seems to be segregated by age as older cohorts are able to consider buying into rising house prices faster than younger age groups. This hypothesizes a reversal of trend among the young households and intergenerational injustice in the UK housing market. However, young British households' decision to wait longer in the private rented sector or climb the property ladder seems to be consistent with the ongoing housing market condition and prospect as shown in Bramley (2012). The UK is currently experiencing an ageing population and increased life expectancy which may have had a huge impact on wealth accumulation and life cycle. Hence there is a possibility that wealth accumulated from housing by the older cohorts could serve as prospective funds for their retirement.

Another view to tenure choice determination in the housing market looks at the demographic behaviour of individuals and households (Baddeley, 2011; Drew, 2014; Fu, 2014). This is a different way of measuring housing satisfaction other than the widely researched economic factors. Factors such as marriage, gender, race, norms, status, age and family have been included in past studies as non-economic factors affecting tenure choice. Baddeley (2011) focused on societal impact, personal traits and age as factors affecting individual's choice of housing. Herding was also included in the research as a behavioural factor affecting housing choices of consumers. In the research, the term was used to refer to the emergence of the tendency to copy others' actions. However, the term seems unsuitable in the context in which it was applied. It was used as a means of reflecting human motivations in decision making, whereby people often make decisions based on others' decisions, rather than human intervention to fit specified purposes.

Following the mobility determinant of tenure choice, Kan (2000) used the Panel Survey of Income Dynamics (PSID) to investigate households over a twenty-two year period on the influence of their anticipated movement tendency on their tenure choice. The study argues that households are likely to choose their preferred tenure based on their future mobility

expectations. However, future mobility expectation depends on several reasons not mentioned in the research such as family decisions, an expected change in job and many others. Other socio-demographic factors that could determine housing tenure decisions include (unexpected) family formation and cohabitation changes (Ermisch and Di Salvo, 1996). Family formation could be expected or unexpected. A couple may expect to choose their tenure based on privacy reasons or expectation of a child. It could also be the other way round when the unexpected happens such as separation or unemployment.

Socio-demographic analysis within housing studies has taken several forms in the past and with different terminologies and meanings. Housing transitions had been mostly referred to in literature studying youths and individuals leaving their original family to form a new household and also the re-housing of other endangered groups in society. Feijten (2005) defined housing careers as the chain of housing events that individuals undergo during their lifetime. This is further related to the relationship between tenure changes, housing quality, price, economy and their family formation. These concepts are very much related and mostly referring to the same process in different terms. For instance, the pathway to housing is defined in Clapham (2005) as the practical interface between housing utilization and the meanings attached to it as a home. This concept literarily builds on events undergone by individuals that affect their housing consumption over time.

The most emphasized pathway for young adults is the period of leaving parental home for independent living. This stage is quite difficult to capture as young people may leave temporarily or permanently. Furthermore, they may be faced with other life situations and thereby change housing. Again, the concept of transition comes in through this. Housing pathway was further described by Clapham (2005) as a modification to the concept of housing career. The classification of housing pathways has been described as either grounded on the ability of young adults to influence their way into private housing or based on their decision on housing due to unintended circumstances that shape their lives.

Housing life-course also had largely modelled the pattern by which changing characteristics and phases in the lives of households affect their choices of various housing features and tenure. This concept could be related to other terms used so far for mobility patterns in housing. Residential mobility simply is the movement of households from one house to the other. Differing views on residential mobility have been formed. Clapham (2005) relates mobility as the exchange of housing for another based on certain characteristics. These characteristics

could be physical, locational or financial. Alternatively, Thomas et al. (2013) argued that further to changing housing by households, residential mobility only relates to fairly short distances and without a change of workplace. However, in reality, there could be regional residential mobility. When this happens for other reasons outside job changes, say for economic reasons, it could also be referred to as residential mobility.

Research into regional mobility among British households as a result of labour market effects was carried out in Böheim and Taylor (2002). The study of the BHPS suggested that residential mobility across regions decreases with increase in job stability. This seems quite realistic, but mobility among British households is known to be quite low compared to many other countries. The reasons for this may not be far from the level of satisfaction derived from housing depending on the tenure type. Another analysis of the BHPS in Clark and Huang (2003) also suggested that age and tenure are strongly connected to residential mobility. The same research also finds that those who are satisfied with their locality are less likely to move. Younger people and also non-homeowners are more likely to move compared to others. This is so partly because Britain has long been known as a home-owning society. For these reasons, residential mobility could be better particularly focused within young adults especially in private renting (Buck, 2000). We could hence conclude that demographic behaviour greatly influences decisions on housing tenure.

2.3.4 Socio-psychological influences on housing tenure decisions

Social influence and attitudes emanating from expectations have been wide-ranging and more recently in particular from intergenerational assistance. The recent interactions between social, demographic and psychological factors affecting housing decisions especially among young adults prove that the propensity of a consumer to save towards housing does not always correspond to the economy or income. For instance, back in the 50s and 60s, individuals and households do not have older and richer families to turn to for housing assistance, and this might have been a great factor in determining their ability to compete in the housing market. Rowlingson and McKay (2005) argued in the article - 'attitude to inheritance in Britain', that beneficiaries from inheritance, are mostly found to own their homes and belong to the middle age group. This contradicts other reports such as that of Tatch (2007)'s findings indicating that a substantial proportion of younger households is being assisted into owner-occupation by their parents. Because of the increasing observed assistance, development of norms towards the expectation of financial assistance may have increased over time. Whatever the case, both findings indicate that a substantial fraction of young individuals is 'left out' in their parental

home or in the rented sector. The findings also suggest that the wealth of one generation is being transferred to the other in diverse ways, further signifying a case of an extensive intergenerational disparity in the housing market. Hence, the extent of young adults' inheritance expectation is likely an important factor in their choice of tenure and further impact on the behaviour of this group in the housing market.

On a wider scale, the comparison between economic and psychological influences of housing tenure choice was tested on new college students in Israel (Ben-Shahar, 2007). The human experimental study was tested on 315 young individuals based on their inexperienced economic knowledge of housing, and ability to make choices on a neutral platform based on economic and psychological circumstances put to them. Although psychological influences on choice came more empirically significant compared to the economic influences; however, the approach to these results was questionable. This is because those that are faced with a choice have the knowledge of real-life situations and have to act according to their available resources, accessibility and personal reasoning. Hence testing these measures on those that are yet to be faced with or make such real-life decision constitutes bias on the results obtained.

A different dimension to the classification of housing tenure choice was reviewed by Fu (2014). Aside from economic factors, other classifications were made of demographic and socio-psychological factors. This shows that housing tenure choice is multi-disciplinary as it cuts across different categories. In the socio-psychological behavioural pattern, house choices can be based on personal reasons such as privacy, caution, uncertainty, security, wellbeing, status, self-will and so on. Other socio-psychological factors that have been proven to influence housing tenure choice are beliefs and expectations (Drew, 2014); motivations (Reid, 2013); spending and saving behaviour (Ab Majid et al., 2014).

Drew (2014) specifically tried to unravel the connection between declared intention to become a homeowner and the individual's view of a home as the best tenure in terms of investment comparison. The US study applied a logit model to the cross-sectional National Housing Survey (NHS) dataset, using some variables related to beliefs in the financial advantages of homeownership over renting and also controlling for economic and demographic factors. Findings suggest that stated intentions have a strong connection with these beliefs. However, the nature of the study, whereby eventual homeownership was not detected is of great concern. This is because other factors, such as housing market conditions or speculative behaviour may be influential in their eventual tenure decision.

Another US study (Reid, 2013) was conducted using a qualitative approach in two cities. The study found that people generally state their intentions to own based on several motivating factors, such as culture, ideology, social class, background and other social factors regardless of their income constraint. This research reveals the innermost mindsets of individuals' bias towards homeownership in contrast to the widely accepted economic influences. Nevertheless, behavioural patterns indirectly related to economic factors, such as disposable income could also be added to the discussion. A Malaysian study focused on young adult couples to find the impact of spending behaviour on the ability to save towards homeownership (Ab Majid et al., 2014). The Malaysian Household's Income and Expenditure Survey (HIES) was analysed using a simple correlation analysis technique. The results suggest that homeowners had a disciplined saving behaviour towards homeownership compared to their non-homeowner counterparts. However, there is lack of general clarity on the respondents' will and commitments towards becoming homeowners. This is because it may be easy to guess that owner-occupation is the preferred tenure for everyone in the study group, but this was not clearly stated and should not be simply assumed. As owner-occupation is favoured by the state, reflecting in about 80 per cent proportion of Malaysians households owning their homes (Hamzah and Adnan, 2016); it is not surprising that homeownership is easily assumed as the preferred choices of young couples in the country. However, the main alternative to homeownership in Malaysia (i.e. private renting) could have also been considered in the study, as there could be households that prefer renting for other reasons.

2.4 Behavioural patterns in housing decision making

Behavioural patterns in the housing system are not as straightforward as it sounds. Different socio-psychological influences give rise to behavioural differences and attitudes. On a general note, behavioural patterns are seen to be controlled by certain principles: attitude towards something; values placed on non-concrete beliefs; and ideologies (Maio et al., 2006). These concepts are deeply rooted in socio-psychological theories, such as observational learning, social comparison, social identity, reasoned action or planned behaviour, and they could at times explain the similar behavioural feature. In a way, an attitude shown towards homeownership may require an individual saving up as much as possible whereas another individual of similar resources decides to depend on family help. On the other hand, values placed on homeownership could portray a sense of freedom and equity. Ultimately, ideologies of such individuals may be influencing their values, thereby also affecting their attitude towards the same goal.

In contrast, the Theory of Planned Behaviour (TPB) by (Ajzen, 1991), the closest to the socio-psychological aspect of this study, suggests that actual behaviour towards a particular goal is based on the degree of control the individual possesses, which is further based on the intention to act, depending on three factors. The first factor is the attitude based on the belief or expected outcome of certain conducts. For instance, the belief that being a homeowner is financially viable may lead to the formulation of attitude towards such goal. Secondly the subjective norm in the form of standards that may have been set by connected individuals or groups, and consistent with subjective enthusiasm to follow suit. An example is the pursuance of a specific housing tenure based on standards set by the socioeconomic group, family or neighbourhood. Lastly, there is the individual's apparent sense of handling these beliefs and acting accordingly, considering the possible chances and challenges the intended act portrays.

The TPB is an extensively applied model for determining behaviour and behavioural attitudes. The model is not common in the housing literature partly because decisions about housing choice usually encompass ample preparation and also required resources, mostly financial. Nevertheless, Cohen et al. (2009) tested the TPB on a sample of low-income earners that became homeowners during a 4-year longitudinal survey in the United States. The study applied a survival analysis approach to testing the significance of relevant TPB-like homeownership-related questions in the Community Advantage Panel Survey (CAPS). The findings were significant, suggesting that the factors constituting the TPB are strongly related to the intentions to become homeowners. However, the study does not include sufficient economic and demographic variables to ensure a reliable prediction of the TPB on homeownership.

Another interesting and slightly similar construct of the behavioural pattern in relation to housing decisions is the build-up of the tendency to follow suit, based on three factors that are mostly related to uncertainty in decision taking: social education, social status and repetitive belief (Baddeley, 2011). The compilation of these into a behavioural pattern is similar to the second factor in the TPB: following set standards as a guide towards a behavioural act. Although decisions may be emulated or influenced consciously or unconsciously, they are not enforced and not necessarily wrong but rather subjective.

2.5 Conclusion

The history of UK housing tenure dating back to the post-war period sees that the UK switched gradually from a social welfare state to an asset-based welfare state and some researchers have

termed this procedure 'privatisation of the housing market'. The gradual changes were felt as the owner-occupation sector began to rise in the 50s amidst rising house prices, leading to a greater willingness by households to own their own homes. The house price to earnings ratio subsequently increased over the years and with noticeable regional differences. Social renting also increased until the introduction of the RTB, aimed at reducing unfair dependence on social welfare, caused the tenure to shrink continuously to date. Private renting, on the other hand, began to rise after the late 80s housing reform and has now surpassed the proportion of social renting. Further investigation is apparent in order to expand the behavioural patterns contributing to tenure shifts. The behavioral patterns may be connected to household wealth and expectations of financial assistance. Hence, this thesis continues in the next chapter with a review and exploration of household housing wealth and intergenerational assistance. This is because there is a need to review societal norms and how individuals' behaviour may have been affected by unmeasured social standards. Hence, the next chapter investigates the link between intergenerational assistance and parental or relatives' wealth which goes a long way in enhancing transfers or assistance for housing.

3 Family wealth, intergenerational assistance and housing

3.1 Introduction

This chapter focuses on the impact of intergenerational assistance on young adults' housing, especially in Britain. Intergenerational assistance is also linked to the extent of parental and relatives' wealth which goes a long way in enhancing transfers or assistance for housing. In order to carry out this literature research, the chapter starts by looking into the impact of parental wealth on young adults' housing choices in major industrialised home-owning countries. The reason behind this exploration is to reveal possible norms shown towards housing decisions emanating from household housing wealth. Afterwards, the existence of intergenerational gap particularly in British housing is explored in the literature. This sub-topic further explores the housing wealth differences between generations; housing inheritance and the intergenerational transfer of the housing wealth; financial transfers down to younger generation for housing purposes and its extended impact on young British adults; and lastly the exploration of housing wealth transfer from parents to their children in Britain. The chapter ends with a summary.

3.2 Parental wealth and its impact on young adults' housing wealth and choices

Studies connecting parental wealth specifically to young adults' housing tenure choices are few. This partly relates to the effect of family background on housing choices, and on the intergenerational transmission of housing wealth. However, there are a few kinds of literature that have recently found this connection significant and worthy of consideration.

A Swedish cohort study by Öst (2012) revealed that there is strong evidence of family background on children's housing accessibility. The research is based on the underlying concerns of increased house prices as well as owner-occupation in the past three decades at the time of the survey. The same situation is noticeable across Europe where the housing market has tended to shift from state intervention towards an unregulated market, just like in the UK. Alongside these developments, and despite Swedish young adults having found to suffer poor economic conditions, they tend to eventually transition to homeownership to match their parents' tenure. This thereby suggests an existence of parental wealth. The logistic regression model took into consideration the impact of parental socioeconomic conditions on the housing choices of young adults aged 20 to 29. Information used in the context of parental wealth specifically relates to parental socioeconomic and family background conditions found in the

Swedish Housing and Life Course Cohort Study (HOLK). This is not to say information on the family background is limited to these, as there are several other areas requiring exploration.

Family background and housing in context are very important in understanding the dynamics of housing tenure choice. The connection between these two concepts was also put forward in Mulder and Lauster (2010). The study involved a theoretical analysis of relevant literature that reflects on three themes – the influence of family background on housing outcomes among households; the connection between parental characteristics and house choices; and the relationship between household life occurrences and housing outcomes. Parents' tenure has been found as a significant factor in a child's choice of housing. Other family background factors such as nearness to parents, transfer of socioeconomic class and the value of their housing were found to be important. Similarly, parental influences were noticed in housing decisions as a result of personal preferences due to differences in social norms and status. Political environment differs from countries and local settings and as such, translates to differences in behaviour towards certain life choices. In terms of cultural differences, Mulder and Lauster (2010) argued that getting on the housing ladder early in life may be seen as essential and normal in a home-owning country or locality. The same is also applicable to the consideration of distance from parental home that is prominent in some parts of Europe. However, this may not always be the case. On one hand, a child brought up under a home-owning parent may decide to delay entry into homeownership for other reasons such as economic or political uncertainty or perhaps for more personal or psychological reasons. On the other hand, another child brought up in a rental family may struggle to turn things around or decide to continue the same trend.

Similar research to Öst (2012) that tries to investigate the link between parents' wealth and their children's housing outcomes was carried out by Ma and Kang (2015) using the Korean Labour and Income Panel Study (KLIPS). Considerable emphasis was placed on the parents' socioeconomic status and other demographic factors in the first thirteen waves of the data. With the application of a hazard and survival analytical approach, the discovery of a positive relationship between the timing of FTBs and the extent of parental wealth was significant to the study. However, care should be taken about the differences in housing systems especially from those peculiar to western countries. In the midst of these underlying factors, the effect of housing tenure of parents on their children's choice of housing tenure could be found in a few recent kinds of literature. An Austrian research particularly investigated the likelihood of children becoming a homeowner early in life provided their parents were homeowners

(Wagner, 2014). This study uses the combination of Austrian Household Finance and Consumption Survey (HFCS) and European Union Statistics on Income and Living Conditions (EUSILC), which consist of a six-year panel at the time of the research. The logistic regression used in the analysis resulted particularly in the convincing influence of parental homeownership on their children's housing wealth. Once again, the research emphasizes the impact of family background, although part of it came as gifts, loans and inheritances and these are not easily observed in many other housing/household level data.

Nevertheless, due to the understanding of the differences that exist in terms of housing systems, conditions and accessibility across Europe, Mulder et al. (2015) undertook a comparative analysis of the impact of parental homeownership on their children's homeownership transition across ten European states. The research was based on the knowledge that some countries differ from another in terms of housing accessibility and hence, affect the transmission of housing wealth across generations. This type of trend can be effectively observed in most home-owning countries. However, in the case of countries or periods when access to owner-occupation is relatively affordable to the younger generation, instances of housing wealth transfers are likely to be less, in comparison to other countries or periods. Based on this notion, Mulder et al. (2015) applied logistic regression on data from the Survey of Health, Ageing and Retirement in Europe (SHARE) data using a combination of micro and macro level data. The study showed that affordability inversely affected the intergenerational transmission of homeownership. Likewise, wealthier societies (measured in terms of GDP per capita and homeownership growth rate) tend to exhibit lower occurrences of parental transmission of homeownership.

From the above, there have been several reports of lower accessibility to homeownership and hence, it seems comfortable to think that the impact of family background on young adults' housing accessibility may be strong in Britain. Andrew (2012) however, argued that there is a need for more research in the familial transfer of wealth especially as it affects housing among British young adults.

3.3 Intergenerational gap and housing in Britain

Intergenerational support among British households has been considered in the literature for a while but the actual instances have been on the low side (Chan and Ermisch, 2011). This literature employed the BHPS⁷ data to investigate the instances of help being exchanged

⁷ Data obtained from UNIVERSITY OF ESSEX. INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH 2010. British Household Panel Survey: Waves 1-18, 1991-2009. *7th Edition*. UK Data Service.

between British young adults and their parents provided they live apart. The analysis takes into consideration the two main ways of giving financial and non-financial support to either the child or parent depending on who is in need. Intergenerational assistance, based on Chan and Ermisch (2011)'s findings from the BHPS primarily involved rendering support to either the parent or child who are undergoing crucial changes in their lifetime. This discovery was found to be more significant compared to those who assist based on poor health and finance. Crucial lifetime changes included childbirth, loss of partner and separation. This means some other important occurrences such as loss of job and state of being unemployed were ignored.

The rise of owner-occupation in the UK over the years has sparked theoretical debates on wealth and social disparity. A lot of research has been carried out in different parts of the world to explain the link between intergenerational assistance and owner-occupation. No doubt, individuals become homeowners through several economic means from which intergenerational transfer forms a part. However, the existence of intergenerational assistance for housing purpose has a lot to do with the presence of wealth inequality in the housing market.

Table 3.1: Homeownership rate by age group by census of total England housing stock

1	2	3	4	5	6
Age group	1991 (%)	2001/02 (%)	2011/12 (%)	% change 3-2	% change 4-2
16-24	36	23	10	-36	-72
25-34	67	60	43	-10	-36
35-44	78	74	64	-5	-18
45-64	76	80	74	-5	-3
65+	58	69	76	+19	+31
% of total stock	66	69	64	+5	-3

Source: Author's own calculation based on data from table AT1.4 of ⁸Department for Communities and Local Government (2010), Department for Communities and Local Government (2016b)

Table 3.1 shows the English homeownership rate by age group in 1991, 2001/02 and 2011/12. These years have been chosen for the years of reference to cover for ten years difference in the

⁸ Department of Community and Local Government (DCLG). See section 5.5.1 of chapter 5 for more on the data description.

analysis and to give a simple view of changes within the age cohorts. In addition, the ownership rate here refers to those with both outright and mortgage ownership status. From 1991 to 2001/02, the homeownership rate decreased significantly among individuals aged less than 35 years. This rate of reduction further doubled for individuals aged 24 and below while the reduction more than tripled for individuals between 24 and 35 years old. Meanwhile, this rate of reduction was met by a significant increase among those aged 65 and above. This is a clear indication of a nosediving rate of homeownership among young adults in England as a representative UK trend. It can be further observed from table 3.1 that the rate of owner-occupation tends to become stable from age 45 onwards. In terms of the age cohort, there is stability in the rate of change in homeownership among those aged 35-44 as they age towards 45-64 years but the shape of ownership by age cohort has totally changed by 2011/12.

Aside from previous research on the difficulties of young adults getting on the housing ladder as a result of being priced out; there has also been some other research that emphasizes these changes. The comparison of widening housing wealth between the younger and older generation has also recently been related to downsizing issues among the older population in the UK. One of these is Scottish research (Graham et al., 2015) funded by the Economics and Social Research Council (ESRC). The report was based on data from the Scottish Longitudinal Survey (SLS) and suggests that a substantial fraction of those in their retirement age and who are equally of the upper socioeconomic class tend to upsize rather than downsize (Graham et al., 2015). However, the report also suggests that about half of the older adults who had moved did so for downsizing. This trend slightly conflicts with the research done by Banks et al. (2012). The latter research compares housing mobility and downsizing among older adults between the US (Panel Survey of Income Dynamics- PSID) and Britain (British Household panel Survey – BHPS). They found that due to much lower mobility among the British older adults, downsizing seems to be much lower in the UK compared to the US.

3.3.1 Wealth differences between generations in the housing market

Hamnett (1991) examined the rise of housing bequests in Britain in connection to housing wealth since the post-war years. The research predicted that there would be a rise in housing inheritance for the next fifty years with the exclusion of a large group who are offspring of renters. This means that a prediction of increased wealth disparity was made at that time. The premise was based on arguments relating to the rise in owner-occupation and an increase in house prices, but changing policies, governance and the cyclical property market should also come into consideration. Hamnett (1991)'s research data was extracted from the HM Revenue

and Custom (HMRC) where properties passed on at death are recorded. The research was carried out using a pilot survey of over three thousand respondents in 1988. This method tends to provide data on probate properties only and does not take account of many other properties. From the results, it was discovered that the age disparity of the inheritors was close but over eighty per cent of these people were owner-occupiers before inheriting the properties. This suggests that inheritance tends to widen wealth and social disparity. Hamnett (1991)'s research was at a time when there was a deterioration of private renting and the promotion of government policies such as the Right-To-Buy (RTB), and other policies to favour owner-occupation. With this system in operation, it could be argued that class and tenure play a major role in defining the resultant effect of wealth disparity through inheritance. But importantly, the contribution of government policies in shaping the housing tenure cannot be overlooked.

Aside from housing inheritance, housing policies, institutions, customs and traditions are relevant in understanding the origin of housing wealth of any nation (Kurz, 2004a). Kurz (2004a) compared the housing policies, levels of owner-occupation and social classification of twelve countries with a sizable representation of conservative and unconventional ruling systems. There is background knowledge that owner-occupation provides a sense of social status, wealth, income and equity and this leads to the existence of increasing social inequality in the housing market. A house is either increasing or decreasing in value at any given period and thereby has a significant impact on an individual's or household's wealth status. This on its own can contribute to social disparity. A positive relationship between owner-occupation and income and status was found in Kurz (2004a)'s research. However, the research failed to explain the link between housing wealth and social disparity.

Furthermore, the discovery of the relationship between homeownership and socioeconomic status was aimed at in Norris and Winston (2012) using an inter-country difference analysis. Two major approaches were applied in the study of housing tenure choice factors in fifteen European countries; considering how the disparity on tenure choice and awareness of the advantages of owner-occupation over renting have encouraged a wider social disparity in these countries. Although the study found some evidence of a positive relationship between housing wealth and social disparity in some countries, the scope of the research seems to have been too large for a thorough investigation. Policy interventions in housing across countries can be very difficult to capture and integrate into a small-sized research, as these policies are usually indirect interventions and as such difficult to measure unlike economic factors affecting the housing system.

A more in-depth research is possible by focusing on changes in owner-occupation levels between two income levels of age groups. This follows the approach used in a recent Australian research by Stebbing and Spies-Butcher (2015). Their research found strong evidence of a positive relationship between homeownership and the socioeconomic status of individuals surveyed in the Australian Bureau of Statistics (ABS). Nevertheless, the choice of the income levels in the analysis lacks sufficient explanation. The BHPS presents a good platform whereby similar research could be carried out in the UK. In Britain changes in housing tenures over the past decades might be as a result of different factors working together. Suggestions are that the widening housing wealth difference between the younger and older generations are as a result of unaffordability. This is equally and strongly linked to the last global economic crisis that created problems for the young adults in accessing mortgages (Whitehead and Williams, 2011). However, structural change in British housing tenure patterns before the economic crisis has been largely attributed to unaffordability of house prices as a result of a shortage of new building (Barker, 2004). Furthermore, social housing in the UK has continued to encounter a substitution with private renting. Alternatively, Norris and Winston (2012) found that the disparity in income levels in western Europe is strongly linked to homeownership ability. In consideration of these reports and findings, one could examine whether income levels and homeownership are interrelated over the years in Britain.

To carry out this task, table 3.2 shows the changes in owner-occupation (and changes in private renting in brackets) at distinct year points for different age groups extracted from the BHPS data. Private renting has been included in the table as an alternative housing tenure that has been transforming into a stable tenure at the expense of owner-occupation and social renting (Kemp, 2011), even though the tenure is seen as the least secure (Kemp and Kofner, 2010). Dependent households or those still in full-time education are regarded as a separate tenure. Hence, the rates shown in table 3.2 are for independent households who are in either homeownership or private renting as a percentage of the rest of the sample population. Furthermore, the income level considers two cut-off points: the top 20 per cent earners and the bottom 20 per cent earners in the distribution. The annual household income from the BHPS was deflated to 2005 prices for this analysis.

Table 3.2: Homeownership rates (and private renting rates in bracket) by age group and level of income, a percentage of the population sample

1	2	3	4	5	6	7
Age group	Income level	1994-95	2004-05	2011-12	% change 4-3	% change 5-3
16-24	Top-20	45.00(0.00)	59.59(2.48)	46.67(2.72)	32(24)	4(26)
	Bottom-20	44.93(22.47)	41.16(14.29)	32.19(24.66)	-2(-36)	-28(10)
25-34	Top-20	100.00(0.00)	95.71(1.90)	94.43(1.47)	-4(18)	-6(14)
	Bottom-20	51.55(32.22)	61.25(21.25)	55.45(27.72)	19(-34)	8(-14)
35-44	Top-20	100.00(0.00)	97.03(1.67)	96.25(1.61)	-3(2)	-4(15)
	Bottom-20	54.40(28.34)	72.50(18.93)	60.71(28.57)	33(-33)	12(1)
45-54	Top-20	100.00(0.00)	98.96(0.52)	96.03(0.99)	-1(4)	-4(9)
	Bottom-20	59.22(25.89)	70.47(17.79)	75.71(19.29)	19(-31)	28(-25)
55-64	Top-20	100.00(0.00)	97.50(2.14)	95.67(1.55)	-3(20)	-4(15)
	Bottom-20	67.18(22.31)	74.58(16.31)	80.54(12.97)	11(-27)	20(-42)
65+	Top-20	83.33(16.67)	91.23(5.26)	97.30(2.70)	9(-68)	17(-84)
	Bottom-20	62.13(27.32)	71.74(18.34)	86.42(7.41)	15(-33)	39(-73)
Total	Top-20	92.21(0.65)	90.02(1.73)	87.33(1.66)	-2(166)	-5(155)
	Bottom-20	58.14(26.66)	67.47(17.79)	71.26(16.25)	16(-33)	23(-39)

Source: Author's own estimation from the BHPS

N=24,900⁹

From table 3.2, it is understandable to find that more individuals in the bottom-20 are in private renting compared to the top-20. Looking closely, it could be further observed that in the bottom 20 per cent income level, more owners are found compared to renters but this percentage increases through the years with the exception of those below 25 years. From retirement age group and over, a unique observation sees the top-20 income level's homeownership rate increase through the years, unlike other age groups, suggesting a likely trade-off between generations. From age 45 onwards, there has been a decrease in the proportion of private renters, especially among the bottom-20 income level while the housing sector's increase is reflected in the top-20 of younger age groups. Although opinions have been made to this effect, the trade-offs described in this analysis have been hardly dealt with in literature. The

⁹ Fuller sample description can be found in chapter 5 of this thesis.

implication of these trends is that they cast doubt on the likelihood of younger low-income households catching up with their higher income counterparts in terms of owner-occupation in the future. However, there is a need to further explore the reasons why the bottom-20 income level group tends to have an increasing percentage of homeownership as they grow older.

Wealth disparity between the older and younger generation is likely continue to widen if the wealthier and older age groups continue to dominate homeownership. The explanation for this trend is more complex than it seems, as many factors such as uncertainty, affordability, inheritance, and government policies could be playing a part. Given that older age groups at the bottom-20 per cent are found to partly increasingly dominate the homeownership, the effect of inheritance could be explored more among the British population. This issue is considered further in the next chapter.

3.3.2 Intergenerational transfer of wealth and housing succession

The forms and impact of intergenerational assistance in the housing market are diverse and can vary according to the historic and housing market setting of a particular region or nation. In New Zealand, Thorns (1994) focused on housing succession among the elderly and how their housing wealth is being transferred in the future. The argument stems from the real-life expansion of owner-occupation through various economic reforms and the significance of its economic impact, while the affected generation grows old. However, forecasts relating to this have often been wrong due to changing government policies and reforms over time. The extent to which intergenerational transfer of housing will occur is likely to depend on the historical economic status of the parties involved and the household formation structure of the country/region concerned. For instance, Thorns (1994)'s study was on New Zealand where the majority of the elderly are owner-occupiers, totally free of mortgage, and with good economic history. The study combined quantitative and qualitative methods of analysis. The area covered was Christchurch and over three hundred cases of owner-occupiers' properties that were transferred at death were obtained from the land registry in 1989. The result showed that about 40 percent of the inheritance transfer went to another generation (either to children or parent), suggesting a sizeable level of intergenerational transfer of housing estates.

The other phase of Thorns (1994)'s research was carried out by interviewing widowed owner-occupiers in Christchurch and concluded that the continuous changes in a pension scheme, taxation and housing policy usually makes housing wealth transfer among the elderly a difficult task and thereby usually leaves nothing for the future generation. However, this method of

interviewing based on only the widowed group brings about a high level of bias. In order to know if there had been some form of help in owner-occupation, this does not only relate to the widowed but also to widespread individuals. The elderly interviewed were also found to be strongly connected to their relations. This trend is seen to be different from some other advanced countries such as the UK and the USA where retirement homes are more prominent. There is a need to further consider the historical nature of the workforce, individuals and their relationships which all shape and affect the forms of housing tenure overtime.

Hamnett (1991) examined the rise of housing inheritance in Britain and in connection with housing wealth since the post-war years and predicted that there will be a rise in housing inheritance to the next forty years, thereby creating more wealth for some defined set in the population. However, there has been so many changes in government policies and the property market over the years, which have hindered this prediction. Global differences in housing tenure between countries and regions also make the intergenerational transfer of housing to be different in effects on different housing sectors.

O'Dwyer (1999) investigated the impact of the intergenerational transfer of housing on Australia's private rental sector. Australia's population was seen to be ageing at the time of this research, which brought about the need to consider bequeathed housing as an important contribution to housing provision. The research was carried out by linking the data on housing transfer with their individual value and tenure data, including probate data for homeowners who are late. The discovery of the amount of bequeathed housing that was added to the supply of housing in the private rental sector was made possible by focusing on the extent by which recipients became owners and changes in the tenure from the time the owner was dead. The research was further extended to the features of the bequeathed houses and their implications for affordability and alternatives. Interestingly, O'Dwyer (1999) discovered from the analysis that about fifty per cent of the bequeathed houses were unsold. Those that were sold off to property business owners were discovered to end up as a rental business that becomes an addition to housing supply to the private rental sector. The reasons for selling such properties could widely be as a result of the lack of property management experience, the need for liquidity, or for ease of sharing among several owners.

It is worthy to note that houses left unsold from bequests could end up being owner-occupied or added to the private rental sector. Successive owners of inherited properties are mostly in their mid-lives and are likely to be already owners. In such circumstances, they are likely to

manage a private rental business from the inherited houses, thereby becoming a type of ‘unplanned’ or ‘unintended’ landlord (O'Dwyer, 1999). These landlords usually have little or no experience with property management and therefore are more likely to sell off their bequeathed properties in the near future. This is to say that the rate of withholding of bequeathed houses in any form or capacity is likely to have an effect on housing supply in any region. This also depends largely on the housing (taxation) policy in place; the current state of the property market; the current and future perception of the value of the property; and the location of the property. O'Dwyer (1999) suggested that the impact of bequeathed houses on housing supply can be assessed by comparing the number of bequeathed houses for the rental purpose to the overall number of privately rented houses in an area. It is, therefore, worthwhile to have an up-to-date comparison of the regional contribution of bequeathed houses to housing supply; the changes it has undergone over time; and the extent of its contribution to housing supply.

In addition to the impact of housing inheritance on the housing market, Kurz (2004b) investigated the access to housing through classified inheritance of homes in Germany. This pathway to housing could be a small aspect of intergenerational transfer of housing. The paper argues that intergenerational conveyance of housing to the younger generation is very much dependent on whether the beneficiary was in the workforce with those in the workforce having lower chances of inheriting houses. Kurz (2004b) noted that Germany saw a change in owner-occupation among the workforce from the post-war period. There was formerly a higher rate of owner-occupation among the skilled and labour-intensive workers, which later transmitted to civil servants. Generally, there had always been a higher percentage of entrepreneurs owning their own homes in Germany. Furthermore, chances of becoming an owner-occupier were seen to depend on three dynamic features: resource availability, choice and financial state. The financial state has much to do with resource availability and can mean the same thing. Kurz (2004b) obtained information on five different age groups from the German Life History Study (GLHS). The research suffers from a lack of information on inheritance and gifts in the GLHS. Information on this was based on a probability test on those whose parents were owner-occupiers obtained from the database. This, however, does not look credible enough for a conclusion on the existence of an intergenerational transfer of housing in the research.

3.3.3 Familial financial assistance for house purchase

In many home-owning countries, families usually assist their young ones in housing purchase through several means. The most common form in developed countries is the contributions

made towards a mortgage deposit and this could take several forms. Guiso and Jappelli (2002) investigated the extent and magnitude of intergenerational transfer of housing by making use of the Survey of Household Income and Wealth (SHIW) in Italy. The basis of the argument was on the use of familial monetary transfer of housing. The possible uses highlighted in the study are similar to past studies. In Guiso and Jappelli (2002), education was added as an investment need for possible financial gift transfer from relations. This form of future expectation is common in different parts of the world. Some cultures believe they should spend a lot on child's development as they would be in the position to reciprocate the care when they are old. This idea is partly shown in Thorns (1994) as a phenomenon whereby a high percentage of the older generation is usually close to their descendants.

According to Guiso and Jappelli (2002), by screening out other likely reasons for familial transfer aside housing needs, the understanding of its effect can be beneficial. The receipt of money from relatives to support home purchase will certainly increase personal funds; reduce borrowing; accelerate house purchase timing and enhance the possibility of meeting the down-payments. By using SHIW, Guiso and Jappelli (2002) traced respondents that received financial transfers from their relations as gifts or inheritance. In order to obtain information on the use of such transfers for housing, the authors extracted information on how and when the respondents got their homes. The research excluded spouse transfer and inheritance taxes among others as this sort of transfers fall within the same generation. About a third of homeowners were discovered to have obtained their homes via familial financial support and inheritance. Financial support in this sense would have further implications in the housing market that were not discussed in the research.

There have been other researchers that specifically discussed parental financial transfers for young people's housing support. This form of transfer can mostly come in the form of familial gifts to their children or relatives to aid their first time home purchase. Engelhardt and Mayer (1994) gave a simplified explanation for the reasons behind requesting for gifts for home purchase from relatives. The period of this research was in the 1970s when the real prices of housing in the US increased. Such periods give rise to an increase in the required cash deposit due to higher house prices. In such a situation, many first time house buyers are out-priced, as there is no equivalent growth in their incomes. The situation of increased house prices and the resultant transfer of gifts to support a first-time buyer relation can be seen in two ways (Engelhardt and Mayer, 1994). The first is simply is to resolve the exclusion by a child or

relative due to unaffordability. The other way could be that because of gains from the higher house prices, the parent or relative is able in the form of a gift to assist the first time buyer. In this second case, it can be argued that the beneficiary of the gift is not necessarily in need of the gift to support house purchase ambitions but the process may be regarded as the wealth continuity of a household.

Furthermore, Engelhardt and Mayer (1994) is of the opinion that there is a general difficulty in ascertaining whether financial transfers among family members are basically for a home purchase. This is because a wealthy family might decide to make such transfers a usual way of life as a continuity of family status. It can also be the reward of a particular accomplishment, such as academic, marital, childbirth and so on. Engelhardt and Mayer (1994)'s research focused specifically on gift-giving for house purchase with particular interest on the phasing and scale of the advance payment for first time home buyers. The data were obtained from a longitudinal survey of different first time house buyers over a seven-year period. The study was further continued in Mayer and Engelhardt (1996) and aimed to find out the special characteristics of gift-giving for a home purchase in the US over a five-year period. The study was also based on the arguments put forward by Engelhardt and Mayer (1994) on the likely reasons for the need of financial gifts for home purchase. This is because it is a difficult task to ascertain the specific purpose of a financial gift given to a relative, as it may be a reward for a good life occurrence; for financial difficulty reasons; or simply for wealth or status continuity. The study was carried out at a time when owner occupancy rates were reducing in the US, particularly and more intensely among the young households. Among many reasons that could be attributed to this occurrence, are changes in the macroeconomy, the prolonged formation of household, affordability issues and credit tightening. There is also an evidence of reliance on financial gifts from relatives. Hence, the need stage and scale of financial gifts for home purchase is essential for the determination of intergenerational transfer of housing by a gift.

Engelhardt and Mayer (1994)'s research made use of primary data on mortgage requests from a title and trust firm that had data on eighteen US cities over a five-year period, focusing specifically on FTBs' means of financing their down payments. The research applied a Tobit model to find out what determines the receipt of gifts for down payments and concluded that financial difficulty has a big impact on gift receipt for home purchase among young households in the US. Tobit models are used in regression analysis with fixed censoring values in the dependent variable. The research by Engelhardt and Mayer (1994) gives insight into the need

for considering the variations in housing affordability among young households over time. Furthermore, it was obvious that young households with the likelihood of receiving gifts from their relatives could depend on such gifts to offset the need for a substantial part of their savings as down payments. Such an action has implications on the saving behaviour of household and the saving time for their mortgage.

In another study by Helderma and Mulder (2007), intergenerational transfer of housing and in relation to the Netherlands housing market features was considered. The study was based on information present in the first year of the Netherlands Kinship Panel Study (NKPS) by using a cross-sectional analysis. This study was influenced by the need for financial assistance by the younger generation for homeownership at the time of the research. Financial assistance for home purchase is found to be common among younger households for different reasons, particularly that house prices may be rising tremendously more than income.

Another reason could be as a result of status continuity which usually results in the promotion of social disparity. Helderma and Mulder (2007) argued that home purchase through familial gift transfer could be complex, considering the necessity to focus on the actual need stage and scale. The age group and housing tenure of the young household are also found to be essential in analysing the use of familial financial transfer for a home purchase. In the analysis, a gift for home purchase was derived from those who indicated ever receiving gifts for mortgage down payments and for those with benchmarked amount transferred at a go. The research brought about a positive relationship between familial gift transfer and home purchase in the Netherlands. This method does not seem accurate enough as its benchmarked amount could be spent on other needs or a combination of needs including housing, regardless of whether the recipient bought a house immediately after receiving such gift.

Similar research was undertaken by Mulder and Smits (2013) on intergenerational transmission of the housing through familial financial assistance in the Netherlands. The emphasis of the support is on gift giving and credit advances for housing support. The research has similarities to the procedure of Helderma and Mulder (2007) as it obtained information from the first two waves of the NKPS on young households whose parents are owner occupiers and who had received a benchmarked amount from their parents at one go. However, there was clarification on the likelihood of owner occupier parents assisting their children financially in purchasing their own homes. There seems to be no clear justification on what such gifts are meant for.

However, the likelihood of owner occupier parents transmitting their social standards of owner occupation or provide financial assistance for their children's home purchase is high.

3.3.4 Familial financial assistance for housing and its impact on the British young adults

In the UK, the literature on intergenerational transfer as an influence on tenure choice or rather home ownership assistance had centred mostly on the British Household Panel Survey (BHPS) and the Survey of English Housing (SEH). A particular interest among researchers is the transfer of housing among generations. This can be by inheritance of land and housing, gifts, rent payment, assistance with construction and housing costs, loans and mortgage (Gulbrandsen and Langsether, 2003). This is a widely reported study in different parts of the world where longitudinal socioeconomic studies have been carried out.

There has been related housing research in the UK through the exploration of the BHPS. Research was carried out by Ermisch (1999) on young households leaving their childhood homes to form their own households and then reverting to their childhood homes in Britain. This phenomenon exists especially among young people leaving their parental homes for higher education. This is because different situations exist for different people and for different reasons. A child leaving a parents' home for higher education studies might decide to form a household or eventually choose to return to the parents' home. Likewise, the same individual could be forced to revert unwillingly due to low income or unemployment.

In most cases, the stage of moving out from the parent's house to form a new household is usually foreseen and highly expected for most households, and is mostly constrained by income and the price of housing (Ermisch, 1999). This is because children are expected to grow up to a point where they will become independent themselves, and start a new stage in their life. Ermisch (1999)'s analysis of the BHPS was based on previously developed models of young household formation decisions over a five-year period from 1991. As expected, individuals that had recently completed their studies and likewise those faced with situations of unemployment and high house prices were mostly found to return to their parents' home. Indeed, this is not surprising as their age groups also fall below 30 years and still depend on their parents for shelter during unpleasant circumstances. This, in some sense, would fall under the category of practical assistance in the intergenerational transfer.

Life events and circumstances sometimes lead to changes in young people's housing circumstances. It is not surprising that some young adults face changing housing tenure over time. Sefton (2007) explored the longitudinal data on tenure changes among British individuals

by using a ten-year study of the BHPS. The study examined the relationships that exist between changes among individuals of different households' tenure and five major consecutive lifetime occurrences, such as getting a new home, having a partner, having offspring, becoming a widow or widower and leaving the job when retired. The discoveries from the research pointed out that the social renters constituted a larger number of the older age group. Over eighty per cent of the owner-occupiers were found to remain in the same occupation over the ten-year period. The results from the research also indicated that more than half of the private renters changed their occupations within the ten-year period, indicating that they had resided in the tenure temporarily. Andrew and Meen (2003)'s study linked the depressed housing market transactions to young households' housing behavioural changes at that time. The reasons for lower household set up and owner-occupation rates among the young persons were explored using panel data from the BHPS. Young individuals were found to react quickly to price and income variations compared to older individuals and households. The research was supported by the insignificant change in households' demography during the 1990s.

In addition to the family and parental assistance for housing in Britain, the impact of gifts on low-income households in the UK was explored by Taylor and Brown (2011). The authors noted the difficulty of obtaining data on intergenerational gift transmission using the BHPS. The BHPS has a variable – 'transfer and other payment' which describes payments for education, foster grant, upkeep and alimony and other payments from relations living or not living in the household (Jenkins, 2010). Contrary to Jenkins (2010)'s claim of no gift-giving evidence in the BHPS, there is a provision for 'payments from relations' in the BHPS. This means that any other payment from relations that have been separated from other sources in the 'transfer and other payments' could be regarded as gifts for specific purposes. Such gifts could take several forms such as repeated, unrepeated, help in kind and unpaid loan interests (Taylor and Brown, 2011). The research was carried out in two stages. The first stage involved the use of previously conducted qualitative research on the children (15 – 21 years old) of some respondents in the BHPS that represented poor households. In this case, respondents had to be traced to their current physical addresses and interviewed. This method of research tends to limit some other substantial reasons for gifts transfer aside the usual forms such as for child education, maintenance, travel and so on. Substantial gifts such as that for a down payment were mostly be reported by individuals in the above mid-twenties age group. The other stage of Taylor and Brown (2011)'s research involved interviews conducted of seventeen mothers from low-income households. Again, it was expected that this group of people would get gifts

mostly from their spouses and other relatives both in cash and in kind. However, the relative and consequential impact of these gifts on their social and housing standards would be worth considering.

Cash for mortgage down payments as highlighted earlier is also important for consideration in Britain. Benito (2006) studied the practical difficulties of down payment for home purchase among comparatively young families in the UK over a ten-year period using the BHPS database. The argument for the research emanates from the behaviour of first time buyers (FTBs) regarding their loan-to-value (LTV) ratio in the housing market. It is evident that LTV ratios have been a significant issue in the housing market and FTBs prefer to strike a balance between equity and loan. The crux of the argument is how households have been able to meet down payments for their home purchase. According to Benito (2006), it is evident from the BHPS that households save from their income for different reasons. This could be for household expenses, old age, vacations, house or car purchase and so on. Although the BHPS has a record of how homes became owned, such as from outright purchase, mortgage, inheritance or other means, it does not provide information on different sources of finance for home purchase aside from mortgage or savings. Other sources of finance for house purchase such as gifts from friends or relations, inheritance, windfalls or proceeds can be obtained from the Survey of English Housing (SEH). Benito (2006) noted that FTBs are more likely to save for home purchase than former owners who source for funds mostly from the sale of their former houses. There is also a significant record of FTBs that source funds for their home purchase through gifts from relations or friends, thereby signifying a weighty existence of an intergenerational transfer of housing in the UK.

Young adults who are unable to source for cash from their families and relatives may have to wait longer to become homeowners. However, cash gifts from their families could affect this waiting period. The extent to which young households are able to wait until becoming homeowners was analysed by Andrew (2012). This is in line with the shape of the housing market and the difficulty of meeting the down payments by young households. Andrew (2012) used BHPS and SEH covering a twelve-year period to obtain data on new households' homeownership transition behaviour in the housing market, and further used a simulation technique to analyse the extent of delay in the movement. The study concluded that from the nineties onward, young British households had found it more difficult to become homeowners due to different combined effects. The reasons found were increasing house prices combined with

tougher mortgage requirements. Also included in the discovery was the effect of changing demography and policies on income allocation. The analysis showed that credit restraint is highly important because of the property market downturn. However, Andrew (2012) was unable to show how young FTBs were eventually helped to becoming homeowners since the young FTBs only experienced delay partly as a result of credit restriction, but some of the young households eventually become homeowners. The other means by which young FTBs are being assisted into homeownership are through help from family members (Andrew, 2012). Help, such as loans and gifts, have their consequential extended social effects on the young households such as the distortion in their saving culture or behavioural characteristics towards spending.

Similarly, Tatch (2007) produced a report for the Council of Mortgage Lenders (CML) on the continued surge in young FTBs notwithstanding the difficulties faced by young British households in the housing market. Housing market difficulties faced by young households over the decade had mostly been the result of a continuous rise in house prices above that of incomes, tighter credit requirements and increasing down payments. This means that young households are able to buy their houses by sourcing for funds outside of their savings. Tatch (2007) obtained information from the Survey of Mortgage Lenders (SML) and Regulated Mortgage Survey (RMS) on the percentage of young FTBs being assisted with their down payments. The analysis of data obtained showed a continuous increase in the percentage of young FTBs being assisted by their parents and other relations in the UK. However, the research suffered from database inconsistency, as the SML and RMS show some slight differences in their records.

Another dimension is the ability to ascertain whether some forms of help or assistance are for anticipated exchange. The perception of reciprocity among related parties in exchange of either gifts or loans for financial assistance is rare in literature, especially because the exchanges are seen in figures without the knowledge of notion or expectation behind such exchange. Heath and Calvert (2013) tried to unravel this notion in their research by investigating young single individuals in South England through oral interview. The focus of their research was on the housing and unemployment challenges faced by young generations in the UK. This led many young households to rely on gifts or loans from their relatives to meet up their living expenses. No doubt there is an ambiguity in trying to find out the perception of individuals towards gifts or loans and to which class to categorise any assistance of such measure and importance. Heath and Calvert (2013) found out from their research that financial assistance varies in degrees and

forms and there is a moral perception of reciprocation of gifts in different forms and generally without a timed expectation. It is not surprising to get such a result as a realistic one. Those who get loans as assistance from their parents are expected to pay back, but without a specific time or mode of payment and not necessarily with interest. This goes to say that such unpaid interests could be a form of intergenerational transfer of housing.

3.3.5 Parental housing wealth transmission among British households

The literature discussed in the previous section suggesting the influence of parental housing wealth on young people’s housing tenure decisions both within and outside the UK. However, the specific financial assistance towards housing is not evidenced in great detail in the literature. Notwithstanding the difficulties in ascertaining the evidence of financial assistance for housing among British households, evidence of parental housing wealth transmission to the young adults is available in the BHPS. This can be achieved by tracing individuals that indicated that they lived with their parents at any time when they were 16 or over but less than 21 years old at the initial wave (for those born from 1971 to 1975). These individuals are tracked until they are aged 34 years and their housing tenure is then re-checked. To qualify them for this survey, they must have also indicated their parental housing tenure as either outright or mortgage owned at that time. This means that their parents do not necessarily have to be in the BHPS sample. Only individuals that responded throughout the sample period were included (Andrew, 2012). Over 87 percent indicated that they were either household heads or partners at age 34, which further confirms the reliability of the data presented in table 3.3.

Table 3.3: Parental housing tenure vs household tenure at age 34

	Housing tenure (%)		
	Owner- occupation	Private renting	Social renting
Parental tenure	81.55	12.45	6.01
Age 34 tenure	86.71	7.51	5.78
Age 34 tenure (from parental ownership)	92.14	5.00	2.86

Source: Author’s own estimation from the BHPS N=4,194¹⁰

¹⁰ For more details of analysis, see BHPS data source description in chapter 5.

Table 3.3 shows the comparison of respondents' parental housing tenure in 1991 with their household housing tenure at age 34. Those selected in the sample were present throughout the survey. The table shows that about 87 per cent of these individuals had become owner occupiers before the age of 35. More specifically, over 92 per cent of those whose parents were home owners became home owners at age 34. This is solely based on individuals aged 16 – 20 at the initial wave of the survey and whose parents were homeowners at that time. This simple analysis further confirms the previous literature on the relationship between parental tenure and the child's tenure as revealed in the previous chapter. However, this may partly relate to financial assistance from parents provided the young adults are unable to achieve this on their own. An updated research in the future could show any changes in the pattern for a younger cohort. This is because recent research suggests that the length of time at which British young adults become homeowners is increasing, attributable mostly to their economic conditions bringing changes in housing 'pathways' (Clapham et al., 2014). However, other factors driving these trends are equally significant to consider. A further exploration of wealth transfer through housing inheritance is carried out in the next chapter

3.4 Conclusion

Intergenerational assistance, especially for housing, is significant and comes in different forms including financial support, physical housing assistance or inheritance. Societal norms may have partly developed from this trend, whereby young people continue to expect assistance into their desired tenure in various forms. Individuals' behaviour may have been influenced by the social standards set in other households. The link between intergenerational assistance and parental and relatives' wealth which goes a long way in enhancing transfers or assistance for housing seems to be established in this literature. This is also being influenced by a widening wealth gap between generations, because housing wealth forms a major contribution to the share of a household's asset in a lifetime. In terms of physical housing assistance, some literature explored the help given to individuals or households in providing housing for their children whenever they encounter varying life events.

Familial financial assistance for housing, on the other hand, seems to be the most common and mostly channelled towards mortgage down payments. More research on the extent and effect on British young adults' house choices is of great importance. The role of housing inheritance in contributing towards housing wealth transmission is considered in more detail in the next chapter. This will also provide answers to whether the UK remains a nation of housing successors, which may further contribute to young people's expectation of assistance through

inheritance. In addition to expectation of housing inheritance, the next chapter further explores data and literature that suggest path-dependency and neighbourhood effects as contributors to the eventual outcomes of young people. The chapter further establishes a set of socio-psychological drivers of housing tenure decisions among young people in Britain.

4 Path-dependency in tenure choice, familial and neighbourhood effects

4.1 Introduction

This chapter is partly an extension to chapter 3 (by discussing further on housing wealth but focusing specifically on parental housing wealth) and at the same time explores the effect of parental housing wealth (path-dependency) and neighbourhoods on children's housing outcomes. In particular the chapter considers the intergenerational transmission of housing wealth and neighbourhood effects and how differences in neighbourhoods can be influential in housing outcomes. The chapter starts by discussing the reasons why we should focus our attention on housing wealth and investigates the dissection of household wealth components in Britain in order to ascertain the importance of housing wealth if there is any. Furthermore, the importance of housing wealth transmission between generations is explored through inheritance. Different sources of data are analysed to give an update on the recent trends in the UK. After establishing the importance of housing wealth and the extent of housing inheritance in Britain, housing affordability concepts and measurements are reviewed. Indeed, housing affordability has been worsening over the decades among young people, and familial wealth has played a key role in assisting some into their desired tenure. The store of wealth through home ownership is considered afterwards by comparing mortgage debt to income between different households by the age groups of their heads.

Despite differences that may be found in terms of debt profile and the ability to withstand mortgage debt pressures, or perhaps decisions taken not to take out a mortgage from those that can afford one, it will be quite informative to know whether young people's eventual housing decisions may be partly explained by socio-psychological factors. These may be related to their parents' housing status, current norms or perhaps their immediate surroundings while in their parental housing. This will shed more light on path dependency in tenure choice through parental housing or neighbourhood social characteristics. Hence, the impact of socialisation in parental housing and also parental neighbourhoods on housing outcomes is theoretically explored in the literature. The chapter then ends with conclusions.

4.2 Why housing wealth?

Over time, a substantial size of Britain's household wealth has consistently comprised property. Table 4.1 shows that the largest share of household wealth has been distributed between property wealth and private pension wealth.

Table 4.1: Breakdown of household wealth components in Britain, 2006-2014

Year	Percentage of total household wealth (private pension included)				Percentage of total household wealth (private pension excluded)		
	Property Wealth (net)	Financial Wealth (net)	Physical Wealth	Private Pension Wealth	Property Wealth (net)	Financial Wealth (net)	Physical Wealth
July 2006 - June 2008	42	12.3	11.4	34.3	64	19	17
July 2008 - June 2010	37.7	12.2	11.4	38.7	62	20	18
July 2010 - June 2012	37	14	11	37	60	22	18
July 2012 - June 2014	35	14	10	40	59	24	17

Source: Table 2 of Office for National Statistics (2015)

Property wealth could further be argued to incorporate different types of properties, including residential, land, commercial properties etc. More evidence to show this can be found in table 1 of Karagiannaki (2015). Concerns have so far surrounded the impacts of housing wealth accumulation in Britain. One of these is the magnitude and impact of housing inheritance in Britain. On this particular issue, the growth of housing bequests in Britain was investigated in Hamnett (1991) and Hamnett et al. (1991). Widening disparity of wealth and intergenerational assistance through housing bequests was a central focus in these studies and they further examined the unequal share of this inheritance demographically. Hamnett (1991) particularly contended using evidence from Inland Revenue data that housing inheritance would become a major source of home ownership over the next four decades from the early nineties. This claim connotes the large emphasis placed on the influence of intergenerational assistance towards housing tenure choice in Britain and its consequent impact on social class and disparity. The direct approach using the Inland Revenue data to investigate the extent of housing inheritance extended beyond intergenerational assistance because the data also contained inter-spousal transfers. Nevertheless, the study argued that majority of the property inheritance was transferred to their direct descendants and these beneficiaries mostly belonged to the middle age groups at the time of transfer.

Fast-forward to recent times (which is over two decades) since this prediction was made, it appears Britain is yet to become a nation of inheritors as predicted in Hamnett (1991). This is because there is yet no substantial increase in the size of Britain's housing inheritance. In updated research about a decade after the research that led to Hamnett's prediction, Rowlingson and McKay (2004) and Hamnett (1997) both agreed that the early nineties prediction was wrong as a result of growth in private residential care for older people. Increase in the provision of private care and nursing homes may have resulted in older people funding their health and care services using their housing assets. In this analysis, a slightly different question is posed. We are looking to ask whether housing inheritance distribution is still very much dominated by older adults, and the extent to which young adults may now be benefiting. It could be deduced that housing inheritance may be gradually shifting to younger age groups (see figure 4.1). But this cannot be regarded as a major source of home ownership as it is only a small shift in age-group beneficiary, with the middle-age groups still dominant. However, what we do not know from Hamnett's research is the size of non-spousal beneficiaries. A rough estimate of this has been recently suggested in Karagiannaki (2015) and this reveals that about 14 to 16 per cent of estates of married people pass on death to the children or grandchildren, following HMRC's estimation in 2001 (See table 12.9 of HM Revenue & Customs (2012) for further details on the estimation).

Middle-age groups' continued dominance in property inheritance structure further suggests that young adults have lower chances of being influenced directly by housing inheritance, albeit they could benefit from a social and societal influence from their home owning parents. This is because most home owners are more likely to pass on their inheritance to their direct descendants. But these arguments are based on Hamnett (1991), suggesting that the housing tenure disparity make-up in housing inheritance is likely to fade out over time. The reason for this argument was heavily based on the extension of homeownership to lower income earners in the early nineties. However, a lot has changed over the years and the argument may not be true. In fact, housing wealth disparity has continued to widen both between generation and social class. Karagiannaki (2015)'s research on the extent and allocation of bequeathed wealth evidenced this by triangulating datasets from the BHPS, HMRC statistics, Attitude to Inheritance Survey (AIS) and the General Household Survey (GHS). Across these datasets, the analysis specifically covered a 20-year period to 2005 with the HMRC data serving as the major source. Probit and OLS regression methods were also employed to analyse the influence of socioeconomic status on the tendency and value of inheritance respectively. It is worth

noting that although the research does not give a near accurate size of intergenerational assistance through property inheritance, it was able to show that the volume and possibility of inheritance are positively related to age and social class (especially the level of education and housing tenure status). This is particularly interesting considering that there are more to likelihoods of inheritance than just age group. Furthermore, the estimates obtained also may reflect endogeneity in personal wealth and inheritance. Although inheritance is not usually the only factor that may contribute to personal wealth. Nevertheless, current year's personal wealth may contain some amount of inheritance from the previous year if the individual had benefited from inheritance in the previous year.

In addition, the share of housing wealth in overall wealth can be ascertained by going back to the HMRC data. HMRC data reports estates passing on death every year¹¹.

Table 4.2: Non-spouse related housing estates passing on death, 1999-2014

Year	Housing Estates		Value as % of all assets	Value as % of total assets
	Number (thousands)	Value (billion £)		
1999-00	107.94	9.85	64.85%	25.53%
2001-02	107.40	12.51	62.78%	27.40%
2002-03	115.95	15.88	66.81%	32.69%
2003-04	121.50	18.46	68.92%	35.59%
2005-06	123.49	20.07	65.82%	35.21%
2006-07	121.46	20.81	66.27%	35.19%
2007-08	115.40	20.62	64.61%	34.45%
2008-09	114.05	18.75	64.35%	32.25%
2009-10	118.13	18.68	63.77%	32.81%
2010-11	124.83	19.21	65.27%	34.28%
2011-12	132.20	19.63	66.70%	34.60%
2012-13	138.45	20.55	66.55%	34.52%
2013-14	138.78	22.22	66.30%	35.00%

¹¹ Further details on data collection and sample for the HMRC data is given in chapter 5.

Source: Table 12.5 of HM Revenue & Customs (2016a)

Table 4.2 shows the non-spousal related housing estates passing on death (including those notified for probate), obtainable from the HMRC website. The values have been deflated to 2005 prices and non-spousal estimates (Karagiannaki, 2015). The last column does not contradict table 4.1 because housing wealth is only a portion of all property wealth. The percentage of housing wealth in all property wealth in the 5th column further confirms that housing wealth is a major source of wealth accumulation among British households. It is notable from table 4.2 that the value of housing estates passed on to the next generation increased over time, except between 2007 and 2009 when it reduced. This could be as a result of the global recession at that time. Also, the share of housing estates in property assets and total assets were consistent over the years with an average of 66 per cent and 33 per cent respectively. This share also reflects the importance of housing wealth transfer in intergenerational assistance literature.

What we are unable to ascertain, however, is the extent of inheritance claims by young adults even if they have lower chances as compared to older age groups. This is because what may be clear at this point is that inheritance is likely to increase alongside socioeconomic status (Hamnett, 1991, Karagiannaki, 2015) but the connection between the older age groups and their children (which makes up the young adults age groups) may be of interest. The average percentage of overall non-spouse housing inheritance could be used to carry out a rough comparison between young adults' housing inheritance receipts and their income using the WAS. Furthermore, how housing inheritance may influence young adults' strength of choice of housing tenure could be tested in the BHPS but from figure 4.1b, it is clear that young people aged 34 and under are yet to dominate housing inheritance beneficiaries.

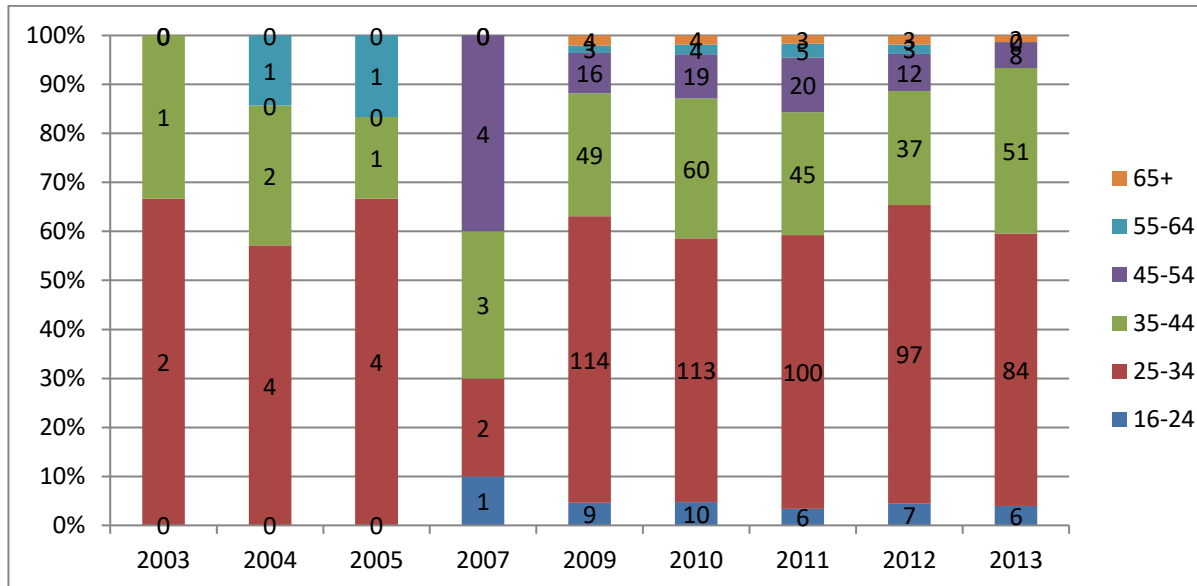
Figure 4.1: Homeowners (within 5 years length of ownership) by borrowed funds or inheritance by age groups in percentages of total population per year (actual numbers as labels)

4.1a

Borrowed funds from parents, relatives or friends

(N =

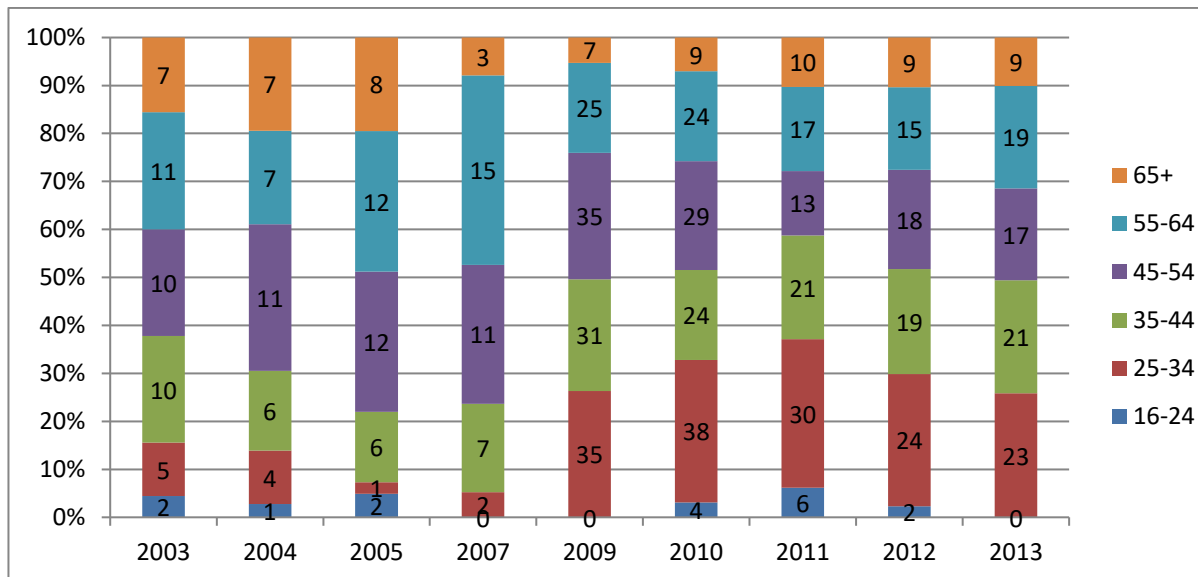
920)



4.1b

From inherited or gifted house or money

(N = 694)



Sources: Author's own estimation from the Department for Communities and Local Government (2016a), Department for Communities and Local Government (2016c)

The English House Conditions Survey (EHCS)¹² gives the length of time of homeownership based on the response given by heads of household. Knowledge of the length of ownership could help in capturing some continued intergenerational financial assistance for housing. In this case, only the heads of household that indicated that they are within 5 years length of ownership at the year of the survey have been included in figure 4.1. They are further differentiated by age groups (in percentages of total sample) and source of support. The information is then further differentiated based on some response variables relating to the respondents' answers to specific survey questions.

This means that those that responded to the survey became home owners (partly) through loan receipts from friends or relatives (figure 4.1a) or their home ownership was achieved (partly) by inheritance or gifts (figure 4.1b). Figure 4.1a, however, may also include loan receipts from friends and family to support their mortgage payments after down payments have been secured. From figure 4.1a, heads of household aged 25-34 consistently had the highest percentage of gift/loan beneficiaries from friends, relatives or parents, even though the numbers recorded from 2003 to 2007 were low compared to subsequent years. The reason for the obvious difference in numbers is because variable '*onrelln*' does not contain gift receipts unlike '*SourFmly*', hence constituting a downside of the analysis in figure 4.1a between 2003 and 2007. Nevertheless, loans received from parents, relatives or friends among the young adults are also likely to be intergeneration transfers, just as gifts. This has, however, been separated from figure 4.1b in order to be sure of the level of housing inheritance among this sample of respondents. Those aged 35-44 are the next group with consistent percentages of housing loan beneficiaries from friend and families during this period. This is not surprising as young adults' difficulty of meeting their mortgage affordability has grown worse every year since the mid-2000s (Jones, 2016). Those aged 16-24 have the least number of heads of households in the study group. The very low percentages of the 16-24 age-group are likely to represent home owners or those that have formed households in this period. The very low percentages, therefore, represent those that have owned their homes for 5 years or less.

Figure 4.1b is particularly more of interest because it gives the percentages of those that indicated housing inheritance of some sort. In the same sample as in figure 1b, heads of households in their middle-age were slightly ahead of others in their source of a home

¹² EHCS (the most detailed of any house conditions survey in the UK) has been used here as it may also give a reflection of what Britain looks like. The data application, including summary statistics is detailed in chapter 5.

acquisition either wholly or partly by financial or physical housing inheritance before 2009. Between 2007 and 2009, however, the age group 25-34 jumped from 5 percent to 26 percent. It looks like the usual trend of most likely beneficiaries of housing inheritance as middle-age groups (Hamnett et al., 1991) may have changed since post-2007. The sudden jump could also be as a result of an additional data (i.e. inherited money for housing) as information on this was not collected pre-2008¹³. It is, however, important to note that Hamnett et al. (1991)'s study¹⁴ was carried out using a London sample in the early eighties as opposed to this more recent study that covers England wide.

From the BHPS and WAS, low-value estates worth under £10,000 (in 2005 prices) are less likely to contain housing inheritance. This is a fair assumption considering that inherited estates worth under £5000 (in 2005 prices) are not usually considered for taxation (Karagiannaki, 2015). Between 1997 and 2008 of the BHPS, only 1 percent of young adults that became home owners indicated that they received cash as an inheritance that may likely contain or be channelled into housing estates in the same year of transition¹⁵. Although this represents a small percentage and is only based on cash receipts, a further check on how this may have influenced their choice of tenure could be useful. The application of WAS¹⁶ to compare young adults' housing inheritance to their income is shown in table 4.3. At the lowest end, housing inheritance constituted around 24 per cent of household income in the 2006-2008 period and continued to drop until it picked up in the 2012-2014 period to 46 per cent. However, the average ratio showed more consistency as it increased steadily since 2008. This is an indication that there might have been a gradual weight progression of intergenerational housing assistance compared to income among a few British young adults even though most of these go to the middle-age groups.

Table 4.3: Young adults' housing inheritance to household income ratio, 2006-2014

Year	Ratio		
	Average	Minimum	Maximum
July 2006 - June 2008	1.93	0.24	5.48
July 2008 - June 2010	3.24	0.20	11.81
July 2010 - June 2012	3.54	0.13	22.92

¹³ Data description in table 5.5 of chapter 5 further clarifies this.

¹⁴ Full detail of the study is contained in chapter 8, page 128 of Hamnett, C., *et al.* 1991.

¹⁵ The procedures to arriving at this estimate are further detailed in chapter 5.

¹⁶ Further details on how this data has been compiled and used are given in chapter 5.

Source: Author's own table using the Wealth and Assets Survey

$N=821$ ¹⁷

Hence, some individuals are likely to reduce their housing cost burden or boost their likelihood of homeownership through inheritance or other intergenerational assistance. But inheritance has no significant effect on household formation, as those that benefit immensely from inheritance have already formed households and are mostly older adults. Furthermore, the year of inheritance receipt is not indicated in the study, but it is assumed that any young adult beneficiary could not have received inheritance too long before the year of survey. Inheritance expectations or intergenerational assistance for housing also has to do with affordability problems. It is therefore essential to explore the extent of housing affordability in the UK and to what extent young people are indebted, based on their housing and income conditions.

4.3 Housing affordability in the UK

Housing affordability remains a central focus in any housing related discussion. The difficulty in meeting housing needs have partly resulted in intergenerational transmission of housing wealth over time. Different approaches have been taken in the past in defining housing affordability. A long-term view, for instance, is that an affordability problem arises when household income spent on housing exceeds 30 percent (Linneman and Megbolugbe, 1992). The study emphasized the shortfalls of this approach to measuring housing affordability. By focusing on the ratio of house price to income alone, we tend to ignore certain important components such as differences in standards of the housing through time; mortgage restraints; down payments; changes in interest rates; and future expectation of changes in housing costs or income. Of course, this is a traditional view of housing affordability and research has moved beyond this. What we now have in terms of affordability measurement is mostly gauged by households' mortgage funding ability.

Suggestions in Linneman and Megbolugbe (1992) that income and price allocation should be modified to fit local housing markets have been considered in the recent past. Furthermore, the consideration of permanent income rather than current income or wealth of borrower households is no longer new in the housing tenure choice literature. However, the big concern is how lending institutions measure their housing affordability. This is because mortgage restraints have mostly affected young people despite their prospective earning potential.

¹⁷ Fuller description of sample can be found in chapter 5

Despite the several concerns on factors to be considered in an affordability model, different concepts of affordability measurement have been developed in recent decades in developed countries. Determination of housing stress is a popular procedure for measuring housing affordability in Australia (Rowley et al., 2015, Yates and Michelle, 2006). This involves categorising households that are in the lowest 40 percent income distribution and spending (over) 30 per cent of their gross household income on housing, as having an affordability crisis.

Indeed, 40 per cent income distribution seems ambiguous as it does not specify on which scale this is measured, i.e. locally or nationally. However, the 30 per cent household income to housing cost ratio rule is consistent with the traditional approach in the UK and US. Rowley et al. (2015) suggested that a dynamic application of housing stress rather than the static procedure is more appropriate to housing affordability measurement in Australia. The research was carried out using the Household Income and Labour Dynamics (HILDA) longitudinal data over a 9-year period. The research was able to differentiate between an objective and subjective housing affordability stance among the survey respondents. Also, the use of a longitudinal study seems to reveal a short or long-term housing stress situation. This may, however, be as a result of different economic periods. More importantly, subjective versus objective revelations in housing stress may explain why households with higher odds of unaffordability and restraints defy these odds by continuing into homeownership (See also Bramley (2006) for an English study on this). Certainly, defiance to the odds could partly explain increasing wealth disparity deeply rooted in subjective housing choice and quality of life.

In the UK, housing affordability models have focused on local housing accessibility in the past decade. A measure that relates to the procedures taken in developing the English indices of deprivation was developed in Bramley and Karley (2005). The model from this study takes into consideration affordability of lower quartile house prices at the local authority level using data from the Survey of Mortgage Lending (SML) and Land Registry. The house price level considered suits low-income earners' housing market and considering that these are likely young people or newcomers in the housing market with their heads of household aged under 35. However, there could be possibilities of using more devolved local level data such as the super output areas or ward level. Nevertheless, the study faces challenges with the inclusion of wealth from family resources. This poses a great difficulty in housing affordability measurement. Another affordability measure was also incorporated into the housing need concept, by referring to a private renting household that spends up to half of their net household income on rent or whose leftover income after rental deduction does not meet the housing

benefit benchmark (Bramley et al., 2010). The latter approach is also in line with the residual income approach in the US study by Stone (2006) which forms a part of the normative standard for housing affordability measurement. It is termed ‘residual’ in the sense that a ratio is not put in place here, but rather a ‘leftover’ procedure to ascertain whether what is left after housing costs is sustainable for other living costs. The third approach in Bramley et al. (2010) applies to households lagging behind in their mortgage payments by up to six months. The method applied is a modification of the regional ratio of lower quartile house prices to lower quartile household income modelled in ¹⁸Andrew et al. (2005). Essentially there are setbacks in the study as it is problematic trying to incorporate the effects of changes in labour market conditions and relocations overtime.

4.4 Household mortgage debt to income

Housing wealth could also be harnessed by investigating home ownership using a mortgage. It is believed that home owners tend to make their homes a store of wealth and to guard against any financial difficulty or to support their well-being in the future. This tends to give rise to concerns about mortgage debt. Mortgage debt is a major issue in housing markets and as well as important in the household housing wealth literature. It could also be used as a proxy for housing affordability measurement (Meen, 2011). Over a decade ago, Fahey et al. (2004) argued that mortgage repayments are not quite burdensome to mortgage home owning households in most EU countries regardless of the age of household head and income group they belong. The data used was drawn from the European Community Household Panel Survey (ECHPS) of 1996 and it involved 14 countries including the UK. The UK particularly was argued to enjoy a moderately high home ownership rate and with social benefits to support the most vulnerable, thereby offsetting any possible housing debt burden. The research was, however, carried out at a time when the UK had recently experienced the RTB policy. Furthermore, it compares the debt burden of mortgage owning households with that of renting households without a further assessment of their ability to keep up with repayments.

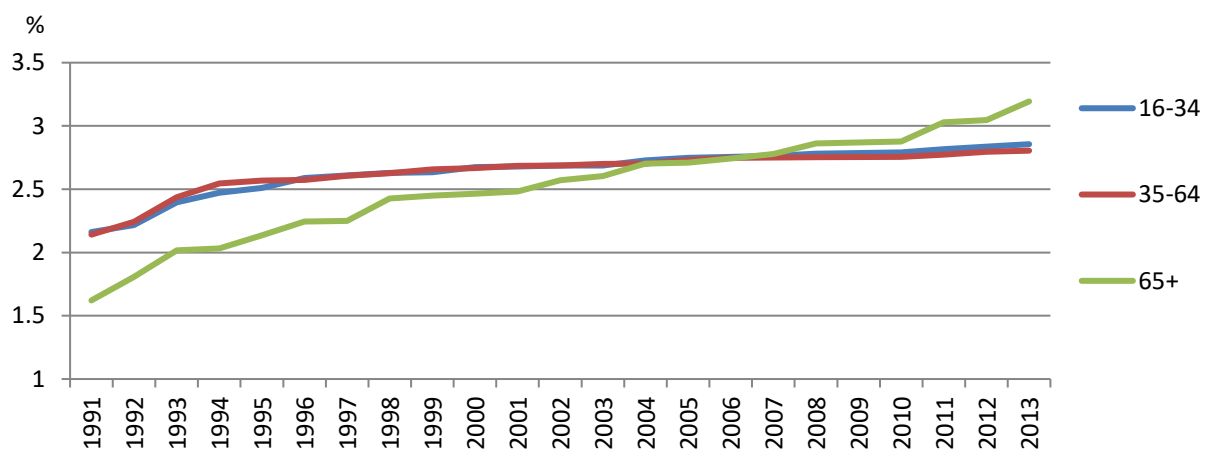
On the contrary, Cox et al. (2002) concluded from a summary analysis of waves 5 and 10 of the BHPS that British households with the most housing wealth tend to acquire the most debt. Even though this is not surprising, the measurement was further broken down into different age groups. Debt to income ratios were found to be highest among the young adults and lowest household income groups. In such circumstance, housing market performance may have

¹⁸ The housing affordability model in the report is also referred to as the DCLG model of housing affordability

dictated the level of positivity observed even among households with the highest debt to income ratio. This is because it is likely to have been a decline in housing market confidence in more recent years as a result of the recent turn of events in the housing market. A different approach was taken by May and Tudela (2005) by making use of probit regression to predict the possibility of running into mortgage arrears using the first 12 waves of the BHPS. Aside from the strong influence of shock unemployment and other factors, the research also concludes that the mortgage debt to income ratio would only be significant when it rises above 20 per cent. The study, however, failed to show differences in age groups and income levels of households that would have provided more depth in the investigation.

In recent times, especially between 2012 and 2014 in the UK, individuals in households with the lowest total wealth and also young adults have much higher debts than others (Chamberlain, 2016), thereby aligning with the much older trend as observed in Cox et al. (2002). Debts, however, can be in the form of secured (mortgage) debts and unsecured (financial) debts. Younger households are more likely to have a measure of mortgage debt that corresponds to their home ownership status. In the BHPS, it can be observed from figure 4.3a that young adults' housing debt to income ratios (in percentages) rose in the wake of the Global Financial Crisis (GFC). Figure 4.3b is an expansion of the base of figure 4.3a.

Figure 4.2: Mortgage debt-income ratio for the lowest 10 percent for heads of households



Source: Author's own figure using the BHPS dataset

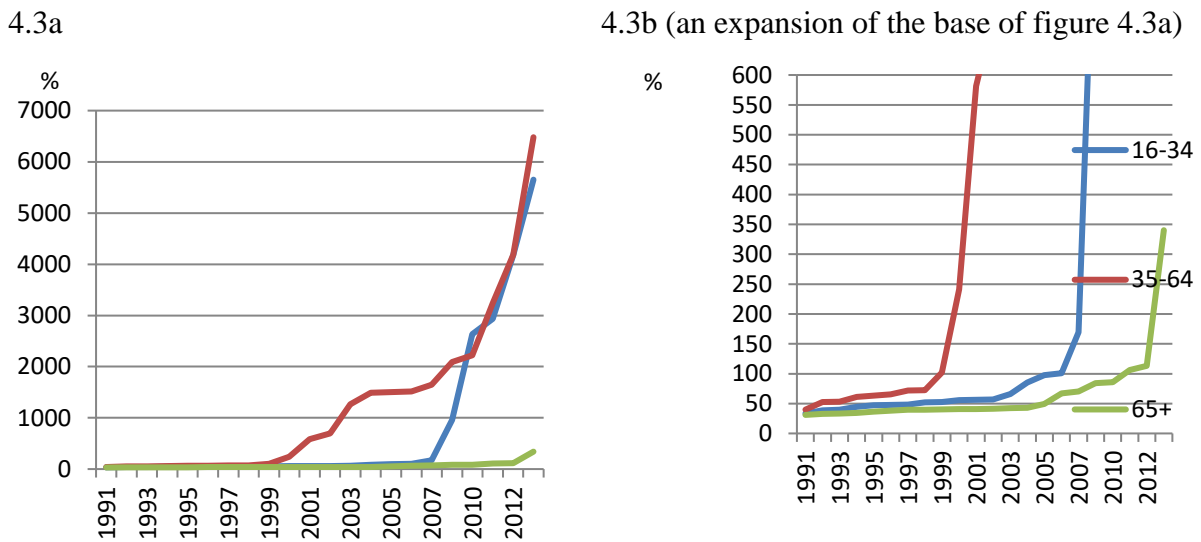
N=122,800¹⁹

Interestingly, heads of household aged 35-64 who are mortgagors and with the highest (worst) ratios saw their ratios pick up since 1999. This is not surprising as several factors may have

¹⁹ For fuller description of sample, see chapter 5 of this thesis

contributed to this at the time, such as credit expansion, including the steady rise in house prices since the mid-nineties (Jones, 2016). The housing market pressure was eased at the time by a rise in average wages. This, however, would not be beneficial to those with no positive change in their real wages, thereby explaining the difference in the figures 4.2 and 4.3.

Figure 4.3: Mortgage debt-income ratio for the worst 10 percent of heads of households



Source: Author's own figure using the BHPS data

$N=122,800^{20}$

Although a lot has been discussed in the literature as relating to housing affordability, the ratios depicted in figure 4.3 add to the concerns on how these households can keep up. This may emanate from intergenerational assistance into housing as discussed in chapter 2. As at the mid-2000s, more than 35 per cent of first time buyers under 30 years old were suspected to be assisted financially (by their parents and other relations) to secure a down payment for their first homes (Tatch, 2007). Nevertheless, it will be quite informative to know whether young people's housing decisions are related to their parents' housing status, current norm or perhaps their immediate surroundings while in their parental housing. This is because young households may prefer staying away from owner occupation even if they can afford it or may, on the other hand, decide to own a home despite unfavourable conditions. This is further considered in the next section.

4.5 Parental housing, neighbourhood and young peoples' housing decisions

A largely unanswered question is whether children's housing outcomes are partly influenced by their parental housing status or perhaps from their neighbourhoods particularly during

²⁰ For fuller description of sample data, see chapter 5 of this thesis

adolescence. Questions relating to these have been attempted in literature such as Wagner (2014); Mulder et al. (2015); Öst (2012); Ma and Kang (2015); and Coulter (2016). The basis of this is not unconnected to the impacts of socialisation emanating from or resulting in (housing) wealth transfer between generations in a social framework. “Socialisation” is a term used here to simply refer to the formation of attitudes, norms, beliefs and ideas that are seemingly acceptable to the environment or society. In the UK, homeownership may have become the supposed normal tenure judging from past government policies. However, recent trends in housing tenure among young people of different backgrounds and situations suggest that such expectations may be fast declining among them. Nevertheless, a strong connection seems to exist between the parental housing and their children’s housing outcomes in different countries.

Logistic regression was applied to the first wave of Austria’s Household Finance and Consumption Survey (HFCS) by Wagner (2014) to test the influence of parental owner-occupation on their children’s choice of housing tenure. Interestingly, inheritances featured alongside gifts as the major drivers of the influence. Young adults were seen to increase their chances by over thirty per cent depending on whether their parents are currently or have been in owner occupation. A link, however, is not made between the length of time their parents have been in owner occupation and how this may have increased their chances due to the length of time spent in owner occupation while growing up. However, the length of owner occupation may have been overlooked as it is not the central focus of the study. More importantly, gifts and inheritances are the results of the ability to support the children through their housing wealth. Housing inheritance was found to be a significant influence on earlier entry into owner occupation, but this was generalised for all ages and did not specifically sort out the age of entry. Furthermore, access to home ownership based on parental home ownership may be dependent on the country-specific housing accessibility (Mulder et al., 2015). This is because a country’s current housing policy, political or economic regime may play a major role in affecting young people’s tenure decisions as opposed to social or psychological reasons.

Coulter (2016) took another approach to find out changes in the likelihood of housing outcomes of individuals based on their parental background over three decades in time. This research was carried out using logistic regression on a dataset obtained from the ONS longitudinal survey of England and Wales. The respondents were born between 1956 and 1981 in the UK and had benefitted immensely from the home ownership policies at the time. The research nevertheless shows that young adults whose parents were renters (privately or socially) are found to possess

more likelihood of renting privately. This may suggest a social trend in connection with young people's changing psychology through time. As opposed to the early nineties the popular notion that all backgrounds are privileged to own their homes, the study attributes the changes to the ease of accessibility to resources rather than socialisation through adolescence. The parental backgrounds and resources specified refer to characteristics specifically relating to their parents' socioeconomic status, marital status and housing tenure. But the study group's housing affordability may also play a significant role in understanding their housing decisions. The length of time parents had spent in a particular housing status was also ignored. The study concluded that the ability to attract the required means and not socialisation in parental tenure is responsible for similarities between parents' and children's housing circumstances. This conclusion is not quite straightforward seeing that duration of parental tenure was not considered as well as other socialisation factors. Considering these unresolved arguments, exploring further the socialisation literature and how it may be connected to young people's housing decisions is helpful.

4.5.1 The place of social capital in socioeconomic outcomes

Social capital is not a new concept in economic studies. In fact, the term has been widely used in many studies to describe the impact of socialisation and social structures, especially on economic outcomes. An Office for National Statistics (ONS) report (Brook, 2005) embraced the definition of social capital described by Côté and Healy (2001). The definition describes social capital as a set of connections, including standards, principles, beliefs, as well as perceptions that enhance support within or among groups. Evidence supporting these set of connections is not as exploited as human capital – which refers to the individual acquisition of knowledge, skills, qualifications, attributes etc. that can enhance an economic return. Brook (2005) tried to summarize the impacts of social capital on labour market outcomes using some ONS data such as Labour Force Survey and Workplace Employee Relations Survey. The paper concludes from the literature review that social capital is very much present in relation to labour market participation, advantages and disadvantages but agrees that more research needs to be done to uncover this scope.

The background knowledge of social capital divides the concept into two (Brady, 2015). These are strong ties relating to individual's direct family members or friends on the one hand, and weak ties relating to colleagues or members of social or economic groups in which the individual is involved. Personal and family resources tend to inform outcomes in early childhood. However, social capital in the workplace also extends to youth interactive features

and means they can influence the drive and ability to work. In terms of suitability of social capital, the ties established for one purpose, such as for economic benefits may be appropriate for another purpose. For instance, social capital developed for economic gain may eventually result in having an influence on home ownership. This is not a direct link but it can be argued that it encompasses a long chain of causal effects. The possible effect on housing of not having enough funds for housing may leave a household with no option except getting support from close relations. That, in itself, is a more direct application of social capital. Other direct applications as related to housing may include compliance with the housing tenure of both strong and weak social capital ties and personal housing experience during childhood or adolescence.

Another popular division of social capital in the literature is to see the concept as consisting of three separate dimensions, i.e. bonding, linking and bridging (Brook, 2005). Bonding is referred to as the association between close relations and friends; linking as in connections with associations and organisations; while bridging is the association between associates and colleagues. Some of these associations or connections have been further associated with some housing tenure-related studies. For instance, Australian research by Ziersch and Arthurson (2007) considered the effects of housing tenures on organisation activeness and perceptions of acceptance and ‘fitting in’ in an area (in Adelaide) using both oral interviews and questionnaires. Whilst the research shows that less than 10 per cent of the respondents do not feel they fully integrated into the area, renters (in both private and public housing) generally felt less accepted than homeowners. However, less than 50 per cent were involved in one local organisation, but homeowners were more likely to be active in an organisation. From the research, we are unsure how individuals (especially those inactive in the organisation or felt unaccepted) reacted to housing tenure stability or changes.

Another research (Leviton-Reid and Matthew, 2017) uses a Canadian General Social Survey (GSS) to establish connections between housing tenure and local area social capital. Home ownership status appears to contribute to the feelings of integration compared to renting. However, unlike Ziersch and Arthurson (2007)’s findings, no significant association between the tenures and activeness in any organisation was found but home owners are slightly more likely to vote in an election. Certainly, there are differences in the methods of research, including the research area and dataset used. But DiPasquale and Glaeser (1999) discovered in an exploration of both the US General Social Survey and German Socioeconomic Panel (SOEP) data that the higher stability of home owners might have resulted in the tendency of

involvement in a local organisation. This further brings another dimension to the debate on a potential other causality that may be responsible for the relationship between social capital and housing tenure.

A study differentiated between those who moved, or arrived newly in some recently reformed areas (i.e. from predominantly social rented to home ownership and private rented housing) in the Netherlands and how this impacts on social capital within the areas. Kleinhans et al. (2007) took this approach by associating home ownership and some other socio-demographic qualities to some social capital indicators reflecting trust, integration and communication with neighbours. The study concluded that prospects of residential stability do not associate well with social capital. However, the connection between social capital and different variants of residential mobility did feature. Hence, it would be interesting to study the relationship between tenure transition and social capital in areas with different features. Furthermore, amidst better social capital levels for home owners, perceptions of neighbourhood characteristics contrasted differently with social capital drivers in Kleinhans et al. (2007)'s study. Personal opinions about the quality of the area showed a direct relationship with trust in and dealings with neighbours but indirectly related to activeness in organisations. An objective test of neighbourhood quality may be interesting in this regard.

As expected, the link between neighbourhood social capital and movement across tenures is not a central focus in most of the studies discussed above. Nevertheless, the studies considered had successfully established the link between housing tenure status and neighbourhood social capital. The studies focussed mostly on the impact of housing tenure status on social capital. However, the reverse may also be the case where social capital might have been influential to households' tenure transitions. Social capital in this context follows its broader understanding as discussed in the beginning of this section. Causality is therefore important in the understanding of these relationships, for example, there could be spillover effects (McCabe, 2012) as a result of the generation of social capital from certain tenure types. The analysis of area-level association with social capital is also missing. Hence to further unpack this concept; it is expedient to use the rest of this chapter to explore both empirical and theoretical evidence on the impact of social capital on young people's housing outcomes.

4.5.2 Impact of social capital on children's housing outcomes

Higher home ownership rates tend to improve the social interactions of a neighbourhood, leading to better eventualities (Bramley and Karley, 2007). This, however, also depends on

certain characteristics such as the duration of socialisation in the area, time of life, gender, race etc. Differences and changes in young adults' decisions in recent times and the attitudes shown towards housing may in part emanate from their experience and conceived opinions towards housing through adolescence. The demand for housing by young adults may, therefore, be a nurtured or reserved ambition or notion conceived in parental housing. A qualitative approach was taken in Rowlands and Gurney (2000) to find out the view of some young people, whose ages ranged from 15-17 years, that volunteered to participate in a survey in their schools in England. In response to the interviews conducted, the respondents inferred that housing is an integral part of the definition of one's social class. Furthermore, the perception was that housing tenure other than owner occupation gives an impression of either a lower class (private renting) or a failure (social renting) seems to have been socially constructed. Although the research deviates from the empirical analysis that has more facts about real life conditions of respondents, it was able to shed light on instilled beliefs and ideas shaping individuals' decision making. It is no doubt that the supposed idea of 'normal life' is obtained from relations, friends, and the immediate locality in which young people grow up. Despite the informative knowledge that the research offers, getting to know the eventual housing decisions taken by these young people and in connection with other relevant resources accessible and/or situations surrounding them later in life would have provided more insight to the study.

Research about the eventual housing decisions in relation to historic socialisation in parental housing was carried out in Lersch and Luijkx (2015). The study used an event history analysis on the first three waves of the Survey of Health, Aging and Retirement in Europe (SHARE) data covering 13 countries in Europe. More specifically, the study tried to test the relationship between parental home ownership and eventual home ownership or its relative tendency. A unique inclusion in the study is the number of years spent in parental housing up until the 18th birthday. This helps to build up the argument surrounding the importance of socialisation in parental housing and how this may have influenced ultimate home ownership. Socialisation here referred to the process of acquiring goals, choices, information and passion which is often times consciously or unconsciously influenced by parents over time (Lersch and Luijkx, 2015). However, care must be taken as the agents of socialisation are not necessarily parents but can also be other relations, friends or the immediate environment which then reveals elements of social capital. Nevertheless, the exclusion of other agents of socialisation was only crucial to the study. As expected, differences exist in the effect of the duration of staying in parental home ownership and the tendency to become a home owner in different countries included in

the survey. It was not particularly strong among men in Sweden, France and Greece and strongest in Austria, Germany and Italy. Little explanations were, however, given to fully expand on these differences.

Cohen et al. (2009) took a more direct approach by examining the link between home ownership intentions and the eventual home ownership decision. This stems from a socialisation point of view whereby intentions were previously nurtured and traced to eventual action. The study brought up an extension to the Theory of Planned Behaviour (TPB) in examining its relation to home ownership. TPB (expanded in section 2.4 of chapter 2) is based on the premise that actual behaviour towards a particular goal depends on the degree of control the individual possesses, which is further based on the intention to act, depending on attitude shown towards certain beliefs; subjective norms; and a sense of handling the beliefs (Ajzen, 1991). Advancement on the TPB, however, seems to be attempted whereby longitudinal data was used in the American study. A 4-year telephone survey on the same set of initial renters from the Community Advantage Panel Survey (CAPS) provided the sample and socio-psychological variables required in the survival analysis. Other relevant economic, housing and demographic variables were included as influences on individual's behaviour towards home ownership.

The study finds again, that among other covariates, the willingness to become home owners is stronger among those whose parents were owner-occupiers. Around 1,500 low-income renters were randomly contacted from a sample of about 16,000 households in the CAPS. The eventual home ownership among these respondents from their follow-up surveys in subsequent years showed how strong the importance of income is, but at the same time, the weakness of apparent behavioural control on intentions. 10 per cent of the initial respondents that had responded to questions relating in varying degrees to the strength of their attitude, norms, beliefs and intentions towards home ownership eventually became home owners during the period of analysis. Although it may seem positive responses infer readiness but buying a house requires a huge financial commitment, unlike some other difficult goals. It also requires an ample time to plan and prepare towards home ownership, depending on how important it seems to the individual/household. Regional differences and local deprivation rates were included in Cohen et al. (2009)'s research but, however, attracted very little attention.

4.5.3 Neighbourhood effects and children's housing outcomes

Neighbourhood features were considered in another US research, albeit outside the TPB framework. Harkness and Newman (2003) capture the underlying impacts of parental home ownership and communities on children's outcomes. This strongly relates to the housing policy at the time that supports home ownership in certain distraught low-income areas in the US. Community differences and local deprivation rates are not unconnected to neighbourhood features. Three channels by which neighbourhood features could be predictive of children's housing outcomes were considered using the Panel Study of Income Dynamics (PSID). These included the neighbourhood's levels of poverty, home ownership and residential mobility. The combination of a Probit regression and Ordinary Least Square (OLS) in the study showed that children that spent their teenage years in owner occupied homes tended to significantly show better demographic and economic features at age twenty (used as the dependent variables) which may further facilitate their chances of becoming home owners. The same was also consistent with the effects of their neighbourhood's levels of poverty and residential mobility during their teenage years. The effect of their neighbourhood's home ownership rate, however, was not consistent with other effects. In addition to this, the study further found that under poor neighbourhood circumstances, parental home ownership may not be able to circumvent worse effects for children, in comparison to growing up in rented housing. This suggests that when neighbourhood effects come into play, there could also be negative effects of parental home ownership on children's outcomes later in life, but this is yet to be fully tested. Neighbourhood effects may not be unfavourable on renters' children due to higher levels of mobility; hence they do not have a strong connection with others in their neighbourhood. Although Harkness and Newman (2003)'s study aimed at finding out certain demographic and economic outcomes at age 20, it would, however, be more interesting to see the actual housing outcomes of the respondents based on the underlying impacts tested. This would help in relating the tested features to their eventual housing behaviour patterns and also help in differentiating the influence of socialisation in parental home ownership from that of their parental neighbourhood.

Neighbourhood effects, especially with respect to socialisation, social capital and intergenerational impacts are very much present and hold a big part of the socio-psychology literature. Galster (2012) tried to summarize neighbourhood effects into impacts from interactions through socialisation; the immediate environment or geographic location; and the associations where one belongs. Competitiveness among local peer groups, their viewpoints,

goals, conducts, beliefs, social pressure, stereotyping, parental interventions and resource availability are all connected in varying degrees to the impacts of neighbourhood effects on young people. Neighbourhood effects in the literature specific to housing tenure decisions are, however, very few but gaining increasing attention. Demographic and socioeconomic differences in relation to neighbourhood features and histories and subsequent outcomes in housing tenure context are largely lacking in the literature. Although qualitative analysis may be more instrumental in learning these trends, it will certainly require several follow-up surveys to capture these effects. Hence, statistical analysis of already established panel data may be of good use in capturing these effects in a non-linear approach. In the housing tenure literature, a few studies have indirectly linked parental housing tenure and other wealth features based on neighbourhood differences in children's outcomes. Housing tenure decisions for young adults on the other hand largely depend on opportunities and resources created by these outcomes.

Much of the research done on intergenerational transmission of neighbourhood effects on children's outcomes relates to wider economic, social and psychological issues. However, what is more important here is to ascertain whether these issues truly connect to young adults' parental housing and neighbourhood. The importance of parental neighbourhood in determining personal earnings in the future was emphasized in van Ham et al. (2014) and similarly in Hedman et al. (2015)'s work. Both studies used Swedish socioeconomic longitudinal data known as 'GeoSweden' – which started in 1990 and contains data for each Swedish resident and particularly those residing in the Stockholm metropolitan region. Hedman et al. (2015) was more elaborate on the study procedure. The sample was chosen from young adults between age 16 and 25 who left their parental housing in 1991. Low-income quintile groups were created for the sample individuals depending on the level of income in which people in their neighbourhood generally fall. In this sense, the study tried to combine their current and future neighbourhood socioeconomic features, as opposed to their neighbourhood conditions during adolescence. For this reason, Hedman et al. (2015) could not have fully captured the respondent's middle childhood or adolescence experience but can only assume.

Different points in time were measured to encompass parental home leavers' exposure to the most economically deprived neighbourhoods. Specifically, the study measures three groups of about 5-years after the individuals left their parental housing in 1991 and follows them until 2007. By not having their childhood exposure as a possible contributor to their outcomes the study's parental neighbourhood experience is taken far too lightly. Conclusions from the

regression analysis, however, suggest that at the different points in time, their earnings reflected their neighbourhood circumstances among other controlling socioeconomic and demographic predictors. What this suggests is that those that found themselves in the most deprived areas have lower earnings compared to less deprived neighbourhoods. The study would be expected to arrive at such conclusion because individuals are likely to earn an amount that reflects the economic conditions of the immediate neighbourhood.

Another approach was taken in Bramley and Karley (2007) by examining school performance of young individuals and neighbourhood effects together with considering the linkage with parental home ownership and poverty levels. School performance, on the other hand, may dictate to a large extent the socioeconomic status and consequently resource availability of individuals in the future. The study is premised on the background knowledge that the housing situation and socioeconomic status of parents are likely to be reflected in the behaviour, conduct and prospects of their children which consequently reflects in their school performances. This, in itself, does not seem to be a direct link as there are certain unmeasured social and psychological factors determining the eventual measurement. Nevertheless, other helpful socio-demographic features were controlled for in the multilevel regression modelling of school pupils aged 11, 16 and 18 in England and Scotland, whereby the individual pupils were nested in the schools that were nested in the neighbourhoods. Several data sources (such as census data, local authority data and some deprived neighbourhood areas) were combined for analytical purposes. Bramley and Karley (2007) concluded that the combined effect of homeownership and level of poverty appears to show a strong determinant of school performance. The research, however, does not specifically state future outcomes of the children but it puts up a strong argument for what could follow in their later lives.

Some critics have also suggested that although neighbourhood effects exist, the effects are often overestimated in literature. The scale and boundary definition of the neighbourhood is mostly missing in many empirical types of research on neighbourhood effects (Dietz, 2002). Research in this field has, however, greatly improved since the release of this study and has included interactions from other fields such as geography, economics and social sciences. Another study by Arthurson (2012) attributed most evidence of neighbourhood effects to reverse causation, whereby what is intended or assumed to be the resultant effect of neighbourhood differences may actually be the cause of such differences. This effect may perhaps be difficult to differentiate empirically due to certain selection procedures and it can occur in some socioeconomic outcomes research. For instance, it may be difficult to ascertain

whether neighbourhood effects contributed to future economic circumstance or perhaps economic circumstances resulted in movements into certain neighbourhoods. A broader research on this can be found in a Scottish study by van Ham and Manley (2009). The study explored neighbourhood effects on employment outcomes of individuals, with evidence from the Scottish Longitudinal Study (SLS) which it further linked to 1991 census data to incorporate neighbourhood level measurement of tenure. Integrated neighbourhoods in terms of housing tenure and deprivation measures were considered in the research that contained respondents initially aged between 15 and 50 and followed them for 10 years. Consistent Areas through Time (CATTs), an alternative to Output Areas (OAs) in Scotland was specifically used as neighbourhood classification in the study. Employment outcomes are essential in measuring the standard of living especially among individuals of working age. The mixed-tenure neighbourhood, on the other hand, is a growing concept that aims to reduce social exclusion in modern societies. The findings of van Ham and Manley (2009) suggest that the effect of neighbourhoods on eventual outcomes of individuals may not be as strong as previous claims. Their conclusions contradict most related past studies' arguments about the effect of neighbourhood differences.

4.6 Concluding discussions

Intergenerational transmission of housing wealth has been further explored in this chapter, particularly in terms of socialisation via parental housing and neighbourhood attributes. A shift in time suggests that young people may have been influenced to a certain extent, not just by the increasing parental financial assistance and inheritance benefits, but also by direct or indirect socio-psychological effects from their parental housing or neighbourhood. Eventual housing tenure decisions by young adults may, therefore, be a nurtured or reserved ambition or notion conceived in parental housing. In this context in Britain, the Office of National Statistics officially releases neighbourhoods/districts (also known as Neighbourhood Statistics Geography (NSG)) using Output Areas (OAs) or Super Output Areas (SOAs)²¹ dimensions.

The chapter starts by exploring what housing wealth really implies and why it is important in any housing tenure discussion and analysis, and to further set the tone for the intergenerational transmission of the housing. This is because housing wealth is found to constitute a significant proportion of households' store of wealth in Britain. But young people may have been

²¹ Further information can be obtained from the OFFICE FOR NATIONAL STATISTICS 2016b. Super Output Area (SOA). UK Government.

increasingly dependent on financial assistance due to issues relating to affordability. Housing affordability has been worsening over the past decades in Britain. Recent findings indicate that mortgage debts have been rising sharply among the worst mortgage debt-income ratio decile of 35-64 year-olds since 1999. Before this time, housing affordability issue had prompted some predictions into the future of British housing market. The most popular prediction was that Britain will soon become a housing-inheriting state, but a few decades after, this prediction is yet to materialise. Other means such as financial gifts and loans and more importantly socialisation in parental housing and neighbourhoods have, however, arguably been key contributions to intergenerational assistance for housing.

Many of the studies on the linkage between socialisation and eventual outcomes among young people have focused on their parental housing and neighbourhoods and how these have contributed to their outcomes later in life. A few studies, however, have tried to link children's eventual housing outcomes as a part-resultant contribution from their socialisation in parental housing or neighbourhoods. Some studies, on the other hand, linked housing tenure to certain area-level social capital. Some critics, however, have argued that a reverse causation may also come into play in many of these studies, whereby what is seen as the resultant effect of neighbourhood effects may actually be the cause of such effects. Nevertheless, more recent empirical studies have tested parental home ownership status and its influence on eventual housing decisions of young adults while controlling for other established dimensions (Coulter, 2016, Lersch and Luijkx, 2015). It is fascinating that none of these specifically considered the duration that an individual had lived in parental housing as well as social capital and neighbourhood characteristics as contributors to eventual housing outcomes, especially in the British housing market.

In terms of home ownership (which has been proven to offer less residential mobility), historical tracking of young adults' parental neighbourhood to their future outcomes in a longitudinal study is less likely to contain reverse causation. Many of the studies considered have successfully established the link between parental and neighbourhood housing and young adults' wider economic and socio-psychological outcomes. Only Bramley and Karley (2007) combined parental tenure and neighbourhood features to predict children's schooling outcomes but no literature has directly linked the combination of the concepts to their eventual housing outcomes. This can possibly be achieved by tracking back young adults' parental housing and neighbourhood in a longitudinal data, prior to tenure transition. Young people's involvement in certain social capital drivers would also be a valuable addition to the established drivers of

tenure. Also, the inclusion of objective area deprivation levels (especially educational and housing deprivation levels) could reveal important relationships with individual level drivers of tenure decisions. The assumption is that there is likely to be a relationship between these effects and their housing outcomes.

In this chapter, societal norms and socio-psychological drivers are further established through the development of path-dependency in tenure, social capital and neighbourhood features, as additional influences on eventual tenure decisions among young adults. These can be further tested in established housing tenure models. But before this can be achieved, a useful testing approach needs to be developed. Therefore, in the next chapter, a description of the methodology and an empirical testing approach of time taken to tenure transition among young adults is carried out. The datasets specifically required for testing the socio-psychological drivers are further discussed.

5 Research methodology, design and data sources

5.1 Introduction

This chapter explains the research design and methodology for this study in detail. It further expands on the data sources and approaches to data compilation for usage. Following the literature review and establishment of drivers of tenure decisions from the previous chapters, it is apparent that testing these in models is important. This chapter therefore sets out to provide the methodology to achieving this goal, including the research design and data sources applicable. The first discussion in this chapter is the need for research methodology and design. This is followed by the research criteria and design, with a discussion on the methods applicable to research and the need to choose the appropriate method. The specific research plan and approach follows, showcasing the process of exploring the interaction between socio-psychological influences and other well-established factors such as economic, political and demographic factors. It further cuts across the source and mode of data collection as well as the approach to data analysis. Then, the research methodology (i.e. regression analysis applicable) is formulated. Afterwards the description of the data sources and applicable variables are explained in full details. The chapter ends with research limitations and conclusion.

5.2 The need for research methodology and design

The study aims to inform particular actions while putting outcomes into context within a larger exploration. It provides information that is valid even outside the area of research and offers implications for policy development. The design and methodology are essential for proper planning of the research implementation and outcome. It details how and what needs to be done to carry out the research successfully.

Different views have emerged in literature that considers the interrelationship between theories and research. Some of these research views have been mostly seen in terms of theories, paradigms and strategies for research. Researchers are often involved in arguments relating to the unique contributions of and to the understanding that emanates from different logical opinions and paradigms (Gioia and Pitre, 1990). Paradigms simply refer to the patterns in which things are done, or could mean a theory that creates a system in which activities are to be carried out in a set pattern. This seems to be a combination of different classifications and ideas of research design. Researchers often proceed by depending on different circumstances

such as the research's ontology, epistemology, purposes, goals, focus, characteristics, funding and researcher's position (Ritchie et al., 2013). These circumstances are often grouped into other classifications. The theory is seen to be important in research as it delivers the basis and framework on which the research is carried out, analysed and presented. Although many theories can be found in the literature Bryman (2012) indicated that a researcher's position is mostly divided within the views of ontology, epistemology, strategy and ethics of the research. Creswell and Clark (2007) grouped the philosophical positions into four major parts – post-positivism, constructivism, participatory and pragmatism.

5.3 Research criteria and design

In the previous sub-topic, there were discussions on the methods applicable to research and the need to choose the appropriate method. It is also essential to have a design that conducts the implementation of a research strategy with the necessary criteria well considered during the course of the data analysis. According to (Bryman, 2012), research criteria cuts across different research methods and may be applicable in different capacities for social research appraisal. Studies are usually questioned on their replicability, authenticity and dependability. These are the essential criteria needed for research.

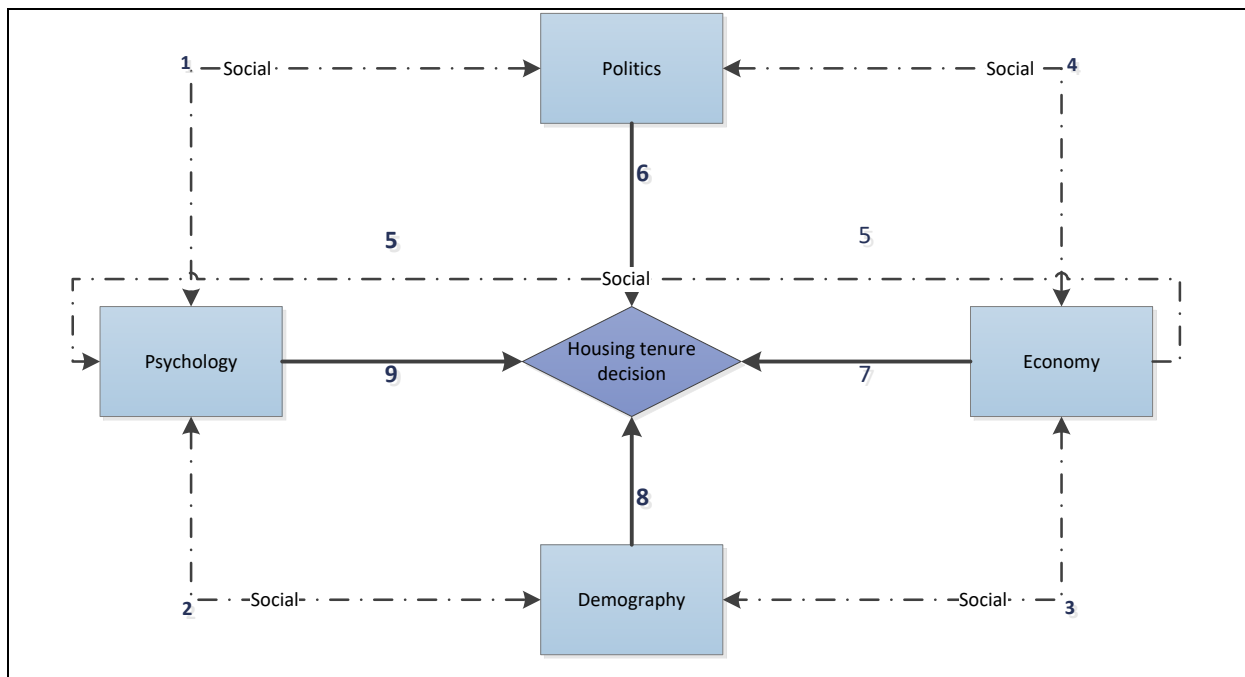
In a research design on the other hand, (Bryman, 2012) identified five different forms in existence. One of these is experimental design – the process of organising a research to meet specific purposes, often found in behavioural studies (Cohen, 2013). Cross-sectional design is another type usually associated with the use of questionnaires, content analysis, well-defined surveys and observations (Bryman, 2012). However, the cross-sectional design also has some other characteristics that define it. It is usually made for a certain point in time and better with a quantifiable analytical approach. Thirdly, longitudinal design tends to be applied to data sets collected over a period of time, unlike cross-sectional data. According to Bryman (2012), longitudinal data can be either of the panel or cohort research types and often found in quantitative studies whereby there is a collection of qualitative interviews or content analysis on several instances at several stages in time. Case study designs are another type usually associated with a specific person, group, organisation, community or location. Case studies are can be associated with both quantitative and qualitative methods of research (Bryman, 2012). However, based on the characteristics of case study design, there may be clashes in its description and that of a cross-sectional design. The last design is that of comparative studies, which refers to the study of two or more dissimilar circumstances with the use of the same strategies. In any study the research design to be chosen has to fit into the researcher's plan on

how, when and where data are to be gathered, explored and ultimately to find answers to the research questions and test the hypothesis if appropriate.

5.4 Research plan, approach and coverage

The previous explanation of research methodology and design has laid the foundation to the existent approaches to research outlook. It brings about transparency as to the procedures needed to answer necessary research questions. This research is about the investigation into the influence of socio-psychological behaviour on housing tenure decisions, particularly among UK young adults. In order to achieve this, answers to specific questions are paramount to this PhD research. Specifically, the research aims to find out how the UK housing tenure really works and to critically explore the interaction between socio-psychological influence and other well-established factors such as economic, political and demographic. It also aims to investigate and test the effectiveness of the introduction of socio-psychological influence on the housing tenure literature.

Figure 5.1: Influences on housing tenure decisions in the UK



Source: Author’s own figure

The scope of influences on housing tenure decisions especially among young adults has been complex in seeking to explain the changes in the UK housing system over time. However, four factors have been distinguished as playing significant roles in the UK housing system in terms of the eventual decisions on tenure. Examples of instances have been summarised in figure 5.1 and table 5.1 below.

Table 5.1: Examples of instances of influences on housing tenure decisions in the UK

Number	Process		Some examples
	Indirect (----▶)	Direct (—▶)	
1	✓		Literature suggests that a cyclical reaction had emerged whereby government subsidies and regulations made some better off and others left feeling disadvantaged e.g. RTB and housing subsidies.
2	✓		Guidance obtained from family members and social circus to get on the housing ladder may be segregated by age, as older people are likely to consider it faster. On the other hand, increasing life expectancy could result in a developed belief that a particular housing tenure is better.
3	✓		Wealth disparity means that younger people are worse off and may have been priced out of homeownership. Alternatively, mortgage market had also favoured existing older owners.
4	✓		Government regulations through lower taxation and incentives adjusted households' finance and influenced their eventual choice. Alternatively, struggling economy in the past had brought about certain housing policy measures such as 'shared ownership' and 'help to buy'.
5	✓		Widening intergenerational gap in housing is likely to result in accepting the situation as the new norm. Likewise social status and supposed class of household are possible bases for intergenerational assistance.

6		✓	The direct housing of vulnerable groups and provision of housing by Local Authorities and Housing Associations.
7		✓	Affordability of housing is the most popular and has different facets and contributions towards housing tenure decisions.
8		✓	Young adults that are very mobile are likely to prefer renting to owning.
9		✓	The guided intention to go by other's decisions or the beliefs or values placed on the choice of a particular housing tenure is an example.

Source: Author's own figure

Social links are found to connect to the four main influences as shown in figure 5.1. In view of this, the need to test the socio-psychological influences within the already established econometrics is of special interest for this study.

5.4.1 Plan and approach

Plans for the approach to finding answers to these queries involve understanding the UK housing system in relation to individuals' and households' housing tenure choices. This further leads to the discovery of the development of societal norms and how this could affect young adults' tenure choice.

The research's basis is on the pragmatic foundation which involves a quantitative design with the purpose of finding answers to the research questions, using multiple secondary data collection and analytical procedures (Creswell, 2013, MacDonald and Headlam, 2008, Tashakkori and Teddlie, 2010). Furthermore, an inductive approach fits into the research style as it makes use of a bottom-top approach towards the creation of theory from the established hypothesis.

The strategies most appropriate for this research are critical literature review and statistical analyses in varying degrees which include longitudinal design. Among others, the longitudinal design especially involves the use of panel data to analyse a range of datasets obtained from the British Household Panel Survey (BHPS). This procedure is appropriate because the BHPS is rich with waves of repeated individuals/households' socioeconomic changes that are

collected on a yearly cross-sectional survey overtime (Lambert, 2006). The waves here refer to periods of data collection (in the form of years). The BHPS is designed to be nationally representative rather than for young people especially. It suggests that information obtainable on young people are only applicable from the BHPS for the purpose of this study but sufficient to represent a British sample. Using this approach, logistic regression of time taken to transition to another tenure among British young adults is achieved with the aid of Stata13 statistical software package. All secondary data resources used are discussed generally in section 5.5.

5.4.2 *Geographical Coverage*

Figure 5.2: Map showing constituent countries in the UK



Source: International Student (2018)

The geographical coverage for the study involves the locations the findings are meant to cover. This research analysis mainly covers about 34,700 Lower Super Output Areas (LSOAs) in England and Wales and about 6900 data zones in Scotland. Figure 5.2 shows the constituent countries in the UK, wherein England, Wales and Scotland form the Great Britain. LSOA refers to smaller area devolvement of census boundaries within the constituent counties with the aim of making data analysis easier. The LSOAs consist of between 1000 to 3000 residents per census area while data zones consist of between 500 to 1000 residents per census area (Office for National Statistics 2016b). Northern Ireland has been exempted due to some difficulties in obtaining data in the region. Generally, every dataset used is reported at least at the constituent country level in Britain. Chapters 6 and 7 specifically deal with multilevel logistic regression analysis where the lower level is at the individual level. At the higher level, however, analysis

of the dataset obtained from the BHPS was carried out at the Government Office Region (GOR) level in chapter 6 and more devolved LSOAs²² in chapter 7.

5.5 Regression analysis of event occurrence

5.5.1 Duration (Event History) Analysis

The time to an event could be useful in modelling housing tenure choice due to its applicability when considering, for example, the time it takes, and factors considered in entering homeownership. But this is mainly possible with the use of a panel data which involves tracing the sample over a certain time period until the event occurs. Time to event is also known as duration analysis. According to Wooldridge (2010), the time taken until a certain event happens, in the form of an outcome variable can sometimes come as duration in economics. This is important as it could be traced to survival analysis, whereby the outcome variable is the time until the actualisation of an action (Johnson and Shih, 2007). This procedure is deeply rooted in medical research but has been very much useful in social science in recent times. Wooldridge (2010) further claims that duration analysis had recently gained ground in the use of hazard functions. The hazard function refers to the conditional probability that an event will fail, provided the event is yet to occur and depending on some covariates. These covariates can change with time under the hazard function, making it a significant and modern-day data analytical procedure.

Kiefer (1988) expanded on duration analysis by estimating the probability distribution function as:

$$F(t) = \Pr(x < t) \quad (1)$$

Given that covariate x is less than the value of time ‘ t ’

Hence, the survivor function can be in the form:

$$S(t) = 1 - F(t) = \Pr(x \geq t) \quad (2)$$

In which case, the covariate x is greater than or equal to the value of time t .

According to Kiefer (1988), the hazard function can be given as:

$$\lambda(t) = f(t)/S(t) \quad (3)$$

²² Data Zones (DZs) are applicable in Scotland and are equivalent to the LSOAs.

Where $\lambda(t)$ represents the rate at which events will occur over the time t provided they are in the sample until time t .

However, more attention is recently given to the proportional hazard function in economics and social sciences. This is given in Wooldridge (2010) as:

$$\lambda(t; \mathbf{x}) = \kappa(\mathbf{x})\lambda_0(t) \quad (4)$$

Where $\lambda_0(t)$ is the baseline hazard consistent with $\kappa(\cdot) = 1$. Kiefer (1988) argued that it is proper to estimate the covariates in order to obtain $\kappa(\cdot) = 1$ at the mean value of the covariates. A more expanded equation in (5) shows that $\lambda_0(t)$ remains as the baseline hazard and with $\beta_1x_1, \dots, \beta_kx_k$ representing the regression coefficients and covariates.

$$\lambda(t) = \lambda_0(t)\exp(\beta_1x_1 + \dots + \beta_kx_k) \quad (5)$$

5.5.2 *Cox proportional hazard model*

For Cox regression, the interest is in the shift in hazard by the covariates involved, which makes the approximation of λ_0 unnecessary. In this scenario, the partial likelihood estimation of our covariates is considered useful as it would not need the estimation of the baseline hazard $\lambda_0(t)$. Hence, the Cox's partial likelihood approach has the advantage of generally approximating the effects of the covariates as long as the hazards appear as in (4) (Wooldridge, 2010). The basic Cox's proportional hazards method, however, is not without its downsides. One of these is that it is more easily fitted with a continuous-time event occurrence than a discrete-time event occurrence.

The application of Cox proportional hazard modelling in housing research is evident in the literature. A similar approach to that explained above has been applied in Clark et al. (1994) and Li and Li (2006). They both used the Cox proportional hazards estimation to analyse the factors influencing the transition to owner-occupation using event-history longitudinal data. The main focus of the studies involved testing possible demographic and socioeconomic characteristics that affect individuals and households' behaviour towards their choice of housing tenure. However, Clark et al. (1994)'s analysis does not adequately explain how the time is properly handled to suit the Cox regression. Nevertheless, the research suggests that beyond economic capabilities of individuals or households and their family composition, a household with more than one worker seems to find it easier to make the switch from renting to owning.

A further data description from Li and Li (2006) shows that Cox proportional hazards model was applied to the study of the factors influencing the transition to owner-occupation using an event-history longitudinal data in Urban China. The data used in the estimation shows that the years corresponding to the data collection are continuous, i.e. the 21 years of study were transformed to 11 periods, with each period corresponding to two consecutive years. Hence the data suited a continuous-time event history platform whereby the Cox proportional hazard is applicable. This form of data transformation is not very clear as no specific time horizons was indicated, especially for some events that are specifically for a certain year. Moreover, the consideration of previous (lags) and future (leads) years in data, which formed the basis of the data transformation, can be easily considered in most statistical tools. Interestingly, Li and Li (2006)'s research shows an increased shift to owner-occupation following the housing reform in China at that time. Unsurprisingly, the study shows that age, family formation and socioeconomic status have positive effects on becoming a homeowner. On the other hand, being married has a negative impact and no impact was seen by childbirth.

Other studies such as Marsh et al. (2000) and Battu et al. (2008) employed the hazard modelling procedure in housing research, specifically in the UK. Cox proportional hazard model was employed to examine influences of housing deficiencies on the health of individuals sampled from five waves in the National Child Development Study (NCDS) (Marsh et al., 2000). This is clearly a deviation from other related studies on housing. However, of major concern is the type of data and method of analysis used. Although the reliability of the housing deficiency indicators used in constructing the dependent variable is in doubt, the longitudinal study seems to successfully analyse the time to the eventuality of health problems as a result of various measures of household and demographic characteristics. The NCDS data is collected in longitudinal sweeps with a gap in years between collection points and represents a continuous-time data. This makes it well suited for analysis using the Cox proportional hazard model.

In principle, the modern day survival/hazard assessment is easily estimated using the Cox's proportional hazard model as a result of its simplicity and flexibility (Cortese et al., 2009). Nevertheless, it is not without disadvantages as its application to a dataset with discrete-time and shared time-to-event could pose a challenge due to its suitability mostly to continuous-time hazard models. Hence, fitting the discrete-time hazard model like the case of Di Salvo and Ermisch (1997) would need some adjustments to the Cox's proportional hazard model. This could be fitted by using a maximum likelihood approach by taking the natural logarithm of odds ratio (Jenkins, 2005, Singer and Willett, 2003). This would be fitted to give a binary

response, and in this case, if the respondent became a homeowner or not. It is worthy to note in (6) that the discrete-time hazard (h_{it}) of entering another tenure has to do with the conditional likelihood (Pr) that an arbitrarily chosen person will transition at a certain point in time t , depending on covariate (x) provided he is yet to transition prior to the time t .

$$h_{it} = Pr [x = t | x \geq t] \quad (6)$$

The covariate x could take different forms and it is important to understand how the covariate applies to the hazard function. Basically, covariates could be time-variant or time-invariant. For instance, individual's income is a variable that varies with time while the same individual's race would certainly be constant with time. Also, a covariate x could be discrete or continuous. This is the case where an individual's sex could be coded as 0 or 1 for female while the number of children could be continuous. Understanding these differences certainly helps in constructing perceived heterogeneity into earlier hazard equation (Singer and Willett, 2003). The perceived heterogeneity in the hazard equation (7) refers to the understanding that individuals are likely to possess dissimilar hazard functions provided they possess varying predicted observations. Hence if a covariate such as race is time-invariant, it simply stays at the same value every year. We, therefore, expand expression (6) to accommodate these different variable forms as:

$$h_{it} = Pr [x_i = t | x_i \geq t, Z_{1it} = Z_{1it}, Z_{2it} = z_{2it}, \dots, Z_{Cit} = z_{Cit}] \quad (7)$$

Where h_{it} refers to the discrete-time hazard of tenure transition for an individual i at time t ; Z_{1it} , \dots , Z_{Cit} represent the C covariates and z_{Cit} refer to the estimates of individual i for the c^{th} covariate at time t .

5.5.3 Discrete-time logit model

Alternatively, Singer and Willett (2003) suggested that a logit link can be used to connect the covariates to outcomes, whereby the right-hand side of the equation contains functions representing both time-varying and time-invariant covariates. This, therefore, creates the flexibility needed in fitting the log-odds of event occurrence. This is given in expression (8) as:

$$\text{Log}_e (h_{it}/1 - h_{it}) = (\beta_1 x_{1it} + \beta_2 x_{2it} + \dots + \beta_T x_{Tit}) + (\alpha_1 Z_{1it} + \alpha_2 Z_{2it} + \dots + \alpha_C Z_{Cit}) \quad (8)$$

The above model thereby shows the discrete-time hazard model (also known as discrete-time logit/stochastic model or the Bernoulli process) stated as a linear link between logistic hazards and the covariates or otherwise as a proportionate link between odds and the covariates. From (8), $\alpha_1, \alpha_2, \dots, \alpha_C$ are the intercepts denoting the log-odds of tenure transition at the specified

time t for each individual; and the influence of a unit change in the covariate on transitioning is weighed by each gradient constraint $\beta_1, \beta_2 \dots, \beta_T$, thereby controlling for the influence of other covariates in the model (Singer and Willett, 2003). Expression (8) could as well be presented in a simpler and shorter form as:

$$\text{Log}_{it}(h_{it}) = \alpha Z_{it} + \beta x_{it} + u_i \quad (9)$$

Where the hazard link function (h_{it}) has been given in expression (6); Z_{it} represents the vector of functions of time t and the baseline logit-hazard is identified by αZ_{it} . u_i represents unobserved heterogeneity among individuals (Steele et al., 2005). Expressions (8) and (9) therefore offer a flexible approach to fitting a discrete-time panel data with a binary response variable.

Di Salvo and Ermisch (1997) made use of a discrete-time proportional hazard model to investigate the influence of macroeconomic factors on housing tenure choice among British households. The study made use of the fifth wave of the NCDS data to analyse the tenure choice between owner-occupation and social renting which were the predominant tenures at that time. The study made use of months of event occurrence for its discrete-time event history analysis measured from the group members' time in months since his/her sixteenth birthday. The data transformation was made to suit the discrete-time proportional hazard approach.

The pathway to young people's independent living in Britain was investigated in Murphy and Wang (1998). The study also made use of a discrete-time hazard model to explore this pattern from the BHPS but failed to expand on the high importance of economic conditions contributing to the demographic pattern observed among others. This is because economic conditions are established drivers of housing tenure change and as such, should not be ignored. Major findings from the analysis suggest that becoming independent among young people in Britain is seen to be affected by family conditions and background, as well as demographic influences such as family formation and location choices. Although the research focus is quite different from housing tenure choice, the use of the same data and a few similarities in applicable variables brought about some familiar interactions as other related research. However, the use of more waves from the BHPS is known to produce better results.

In addition to the literature described above, studies such as Andrew (2012); Clark and Huang (2003); and Bourassa (1995) also employed the logistic regression in their analysis of housing tenure choice or housing mobility pattern model. Alongside the effects of demography and income constraints, poor access to the mortgage was part of the findings by Andrew (2012) for outpricing of young adults from owner-occupation. The paper uses the first twelve waves of

the BHPS and offers a discrete-time logit hazard model in its analysis. Mortgage accessibility is particularly important in housing affordability measures and could be allowed to feature as a covariate in housing tenure choice model. On the other hand, housing econometrics has largely emphasized the huge input of unaffordability as affecting young adults' housing tenure choice. Hence, since affordability measurements feature in mortgage lenders' tools, poor accessibility to mortgage could be linked to the aftermath of the global financial crisis. Similarly, Bourassa (1995) used the logit model to test the effect of the user cost of owning to renting in a cross-sectional housing tenure choice model for young people in two Australian cities in 1991. Although the model finds significance in the inclusion of the user cost in the model, it however surprisingly resulted in a negative relationship between permanent income and homeownership in the two Australian cities. Furthermore, the study failed to adequately describe the use of Housing and Location Choice Survey (HALCS) and how it connects to the applicable model. Lastly, Clark and Huang (2003) found out that some life events, shocks and other demographic variables were significant in their study of the causes of residential move. Again, the study used the first ten waves of the BHPS to investigate the influences of mobility among British households. The nature of the annual longitudinal data collection in the BHPS led to the preference of a discrete-time logit model in their analysis.

5.5.4 The case of multilevel modelling for event occurrence

As discussed in the previous section, the discrete-time analysis is a type of event history analysis whereby the time to the occurrence of an event is measured in distinct periods such as in days, weeks, months or years. Further to the logit model earlier introduced, the time to event occurrence and the possibility of a re-occurrence can be modelled in a form of multilevel platform. What we have studied in previous sections is the single-level event occurrence, whereby there is only the individual level in consideration. Multi-level modelling on the other hand, involves the consideration of the individual level nested in a higher level or grouping. Essentially, both multi-level and single-level form of discrete-time event occurrence can be modelled on a multilevel analytical tool (Steele et al., 2005). Hence, supposing there is a situation of re-occurrence of the said event at different space of time for one individual, and supposing there is no re-occurrence for another individual, multilevel modelling is able to capture these different durations without problems. Furthermore, there is a difficulty in ascertaining the non-dependence of the length of spells until event occurrence for different individuals. The spells may be caused by unobserved influences peculiar to individuals thereby

affecting the risks of all occurrences for all spells. Such unobserved influences could result in a correlation between time spells from the same individual.

The idea of unobserved heterogeneity being resolved in multilevel modelling procedure is through the creation of latent class parameters. Latent class analysis (LCA) basically refers to the analysis of formed related subcategories (also known as latent classes) in a categorical or continuous observed dataset using the maximum likelihood approach (Vermunt and Magidson, 2004). One important review of LCA in multilevel modelling is by Grilli and Rampichini (2006). The review contained the use of a developed program known as 'gllamm' which could be used for random-effects multilevel latent class modelling in several analytical packages including *stata*. Similar to this program are other programs already in existence in *stata* such as the 'xtmixed' command and the likes.

Multilevel modelling is not new, especially in housing research. A research into the form of urban housing by Leishman (2009) makes use of multilevel modelling to reveal geographical transformations between two time periods in Glasgow, UK. The transformations were revealed through the analytical identification of geographical submarket limits in the city's housing market. This was done by carrying out fixed-effects estimation of random intercepts and parameters using geographical data zones of respondents and random-effects specification showing disparities in the geographical data zones. The similar analytical approach was repeated in an Australian study of housing submarkets (see Leishman et al. (2013)). However, these studies are linear and also involve comparison of two points in time. Comparative studies in housing involving multilevel modelling technique can also be found in Huang and Clark (2002) and Li and Li (2006). Multilevel modelling technique in housing tenure choice was especially demonstrated in Huang and Clark (2002). The study investigated the impact of institutions on housing tenure choice for individuals mostly in the working age by using a survey of Life Histories and Social Change. The idea behind multilevel modelling in the study involved the effect of institutions at the city level and other socioeconomic effects at the individual level. Random effects model detecting higher level differences is usually of an advantage in multilevel modelling technique. It would be interesting to carry out an analysis similar to this and also using an advanced technique as multilevel analysis, but in a market where individuals are at total liberty to choose their tenure and where there is a high level of transparency in property rights, unlike the China property market.

Regional differences in tenure choice are relatively scarce in the British housing literature. This can be achieved by adapting the multilevel modelling in random effects model of tenure choice whereby the main covariates influencing housing tenure choice are fitted with fixed effects while random effects model can be fitted on the second level to find, say regional differences. This thereby becomes a form of mixed-effects multilevel modelling technique whereby the random effects deal with observations with shared group-level random effects (StataCorp, 2013). Featuring regional differences, however, falls out of the scope of the analysis in this chapter as what is intended here is to produce an update on recent trends in tenure choice influences among British young adults. A more sophisticated analysis in chapter 7 nonetheless features more devolved geographical variations in housing tenure outcomes in the form of neighbourhood differences. Recall that we are dealing with discrete-time entry into another tenure and that this occurrence could be once or more before the individual is being censored. The model applicable is represented above in expression (9). This can be simply fit by using any of the mixed-effects binary choice regression commands in *stata*, such as ‘*melogit*’, ‘*meprobit*’, ‘*meqrlogit*’ and ‘*mecloglog*’. At the applicable individual-level estimation on this chapter, however, ‘*logistic*’ or ‘*melogit*’ are the commands used in *stata*.

5.6 Data sources and description

The data collection and analysis involve the exploration of different databases and statistical analysis. The use of different databases ensured that information was sought from these sources and compared in a literature review and analytical framework. Hence, the sources, as well as analytical approaches, including sample summary statistics applied in this study, are discussed here. This section describes the datasets specifically required for testing the socio-psychological drivers (objective 4).

5.6.1 Department for Communities and Local Government (DCLG)

The DCLG is a UK government department set aside for communities and local government in England. Other subdivisions like this are also present in other constituent countries of the UK such as in Wales, Scotland and Northern Ireland. The department has a rich store of wide-ranging stock of secondary data that touches different policy areas of the economy, in which housing forms a part. English Indices of Multiple Deprivation (Department for Communities and Local Government, 2012) were obtained from this source (as applicable in chapter 7). Table 3.1 in chapter 3 is another example of data obtained from this source. It describes the homeownership rate across different age groups by cross-tabulating age groups of heads of household by the year of census of total England housing stock sample. The data is a

combination of two separately stored annexe tables in the English Housing Survey headline reports. These tables are named AT1.4 in both (Department for Communities and Local Government, 2010) and (Department for Communities and Local Government, 2016b). Combining these two sources, the sample size for table 3.1 in chapter 3 is shown in table 5.2.

Table 5.2: Homeowners (thousands of household) in England

Age group	1991	2001/02	2011/12
16 - 24	368	152	76
25 - 34	2347	2125	1395
35 - 44	2846	3038	2605
45 - 54	2394	2982	3183
55 - 64	2071	2450	2774
65+	3024	3612	4347
All ages	13050	14358	14379

Source: Table AT1.4 of Department for Communities and Local Government (2010), Department for Communities and Local Government (2016b)

5.6.2 Office for National Statistics (ONS)

The Office for National Statistics otherwise known as ONS database is the largest autonomous collector and publisher of UK wide statistics operated by the UK Government. The database is rich with wide-ranging information and includes data and publications on different aspects of the economy, demography, geography, well-being and other meaningful information in Britain. Some information has been used in this thesis that emanates from either published articles or secondary data collections. Table 4.1 in chapter 4, for instance, describes the breakdown of household wealth components in Britain from 2006 to 2014. The data applicable was sourced directly from table 2 of Office for National Statistics (2015). Other data sourced from the ONS are house prices data for England and Wales, interest rates, consumer price index etc.

5.6.3 HM Revenue & Customs (HMRC)

HMRC is a British government department that deals with taxes, proceeds and levies in the UK. Their official statistics database can be easily accessed for data collection and analytical purposes. In table 4.2 of chapter 4, an estimation of non-spouse related housing estates passing on death from 1999 to 2014 was carried out based on data obtained from table 12.5 of HM Revenue & Customs (2016a). The HMRC data contains information on estates passing on

death in the UK. Information on estates requiring a representative permit regardless of the estate's tax paying status is normally expected to be passed on to HMRC (HM Revenue & Customs, 2016b). Some estates, however, may not require a representative permit if they are less than £5000 or are jointly owned by a couple and passed on to the living (civil) partner. Non-spouse related housing estates are not reported in the data but have been arrived at using a crude estimation (Karagiannaki, 2015). In this study, in order to ensure that our intergenerational inheritance is neither under-estimated nor over-estimated, it is assumed that about 83 percent of estates passed on to married individuals are likely spouse transfers. Hence, only a small portion (i.e. seventeen percent²³) of values of estates passed on to married individuals were added to the estates passed to those unmarried.

5.6.4 English House Condition Survey (EHCS)

The English House Condition Survey (originally known as National House Condition Survey) was a national housing survey covering England and Wales. The survey started in 1967 and was merged with the Survey of English Housing (SEH) to form the English Housing Survey (EHS). The years 2003 to 2007 of the microdata were obtained from the EHCS while 2009 to 2013 was obtained from the EHS. Both datasets are available from the UK data service. The data is rich with information concerning individuals and households' housing, neighbourhood characteristics, demographics, income, housing tenure, housing ambitions and other related housing matters; and covers about 8000 sampled residences (Department for Communities and Local Government, 2016a).

Table 5.3: EHCS applicable variable codes and meaning

Variable codes		Meaning
<i>EHCS</i>	<i>(2003-2007)</i>	<i>EHS (2009-2013)</i>
aacode	aacode	Household Identifier
lenown	lenown	Length of ownership (in years)
hrpage6x	agehrp6x	Grouped age of household reference person
SurvYear	SurvYear	Year of survey
freehold	Freeleas	Household tenure (freehold or leasehold)
hrpsexx	sexhrp	Sex of household reference person
hhtype7	hhtype7	Household type

²³ For more details on the estimation, see page 188 of Karagiannaki, E., 2015.

	Couple, no dependent child(ren)	Couple with dependent child(ren)	Parent with dependent child(ren)	Other multi-person households	One male	One female	Total
16 - 24	20	9	0	9	16	2	56
25 - 34	273	204	21	42	56	59	655
35 - 44	65	195	32	15	47	21	375
45 - 54	54	69	17	22	48	20	230
55 - 64	58	6	0	16	43	39	162
65 or over	27	0	0	5	12	41	85
Total	497	483	70	109	222	182	1563

Source: Author's estimation using data from the Department for Communities and Local Government (2016a), Department for Communities and Local Government (2016c)

5.6.5 *Wealth and Assets Survey (WAS)*

The Wealth and Assets Survey (WAS) is a large British dataset produced by the Office for National Statistics. It comprises information about individuals and households' wealth components. The longitudinal data which started in 2006 is a good source of information on how individuals and households are faring economically. A compilation of wealth statistics in Britain is also produced by the HMRC, albeit theirs is not as large as the WAS and is more focused on older individuals/households, unlike the WAS. The survey, which comprises four wealth measurement themes of property wealth, physical wealth, financial wealth and private pension wealth, started with a sample size of over 30,000 private households in Britain. The WAS has been collected so far in 4 biennial waves (from 2006 to 2014) at the time of this study.

The ratio of young adults' housing inheritance to their household income was depicted in table 4.3 of chapter 4 by applying the WAS from 2006 to 2014. The young adults in this study are aged 16 to 39. Respondents that indicated that their inheritance came from their spouses, partners, brothers (in-law) or sisters (in-law) are all excluded from the sample, resulting in 821 observations. Important variables used for the study and their meanings are displayed in table 5.5 below. Respondents were also asked to choose from a list of what they had received as inheritance in the past. The first two options included residential property or land and money or savings. After their values have been extracted for this analysis, values of goods/cash gifts received are deducted from the total value of inheritance to arrive at a net inheritance value.

Net inheritance value worth more than £10,000 (in 2005 prices²⁶) is likely to contain or be channeled towards housing (Karagiannaki, 2015). Furthermore, housing inheritance is assumed to be about 33 per cent²⁷ of the total value of the inheritance. The final data manipulation involved deflating the derived net annual (self-employed) earnings of the respondents.

Table 5.5: WAS applicable variable codes and meaning

Variable codes	Meaning
ISHRP	Household reference person
DVAge17	Age group
IWat(1-14)	What was received as inheritance
IVal(2-3)	Total value of inheritance at the time of inheritance, after tax
IValB(2-3)	Approximate value of inheritance at the time of inheritance, after tax
IGfvalb	Approximate value of goods or cash gifts received at the time of receipt
IWho(2-3)	From whom inheritance was received
Sex	Sex of household reference person
DVNetPay	Derived value for net annual employee earnings
DVSEAmt	Derived value for self-employed earnings
DVMrDF ²⁸	De facto marital status

Source: Author's creation using data from the Office for National Statistics (2016c)

5.6.6 *Nomis*

Census data used in this study was obtained from the Nomis website. Nomis has a large store of UK data relating to labour market statistics and other matters freely provided by the Office for National Statistics (Nomis, 2016). Census data for 2001 and 2011 in England and Wales were obtained from the website. Scotland census data was however obtained from the National Records of Scotland (2016) which is the official website for Scotland census. The census data are applicable in chapter 7. The census data information applicable relates to the socioeconomic classification, highest academic qualification, unemployment rate and housing tenure rates of

²⁶ All deflations are carried out using the ONS consumer price index.

²⁷ This is a crude estimate derived from an average housing inheritance value as percentage of total assets derived in table 4.2 of chapter 4.

²⁸ DVMrDF is replaced with MarSta in wave 2.

lower super output areas in Britain. Respondents are either individuals or heads of households aged 16-34²⁹.

5.6.7 *The Scottish/Welsh Government*

Lower quartile house price data local authority and LSOA house price data was obtained from the Scottish Executive (2007) and the Scottish Government (2012) and deflated to 2005 prices using the ONS consumer price index. Both of these are part of the Scottish Government publications which is a decentralised database responsible for wide-ranging Scottish data in which housing and environment form a part. The Scottish government database has a section that publishes housing profiles by local authorities. It also contains the Scotland indices of multiple deprivation datasets over time, available from the Scottish Government (2016). The Welsh government is also a devolved government for information in the UK. The website is rich with statistics relating to economic, social, population and policies of the people of Wales. The Welsh indices of deprivation were obtained from the Welsh Government (2015). This website contains both recent and past deprivation indices useful to this study.

5.6.8 *The BHPS/UKHLS*

The British Household Panel Survey (BHPS) is a socioeconomic longitudinal study of households in the UK. The survey follows the same set of individuals and households every year (wave) by collecting information on their economic and social lives. The waves stretch from 1991 to 2008 and thereafter are integrated into a new and larger database called the UK Household Longitudinal Study (UKHLS), also known as ‘Understanding Society (USOC)’. The BHPS started with a random sample of 5500 British households in 1991 and has been updated with more UK household samples over the years (Buck and McFall, 2011). Both studies are designed and run by the University of Essex’s Institute of Social and Economic Research (ISER). The data have been used in different areas of this research. Individuals aged 16 and over in each household are followed up and interviewed yearly using a face-to-face method. The UKHLS, on the other hand, has four sample mechanisms in which the BHPS forms a part (Buck and McFall, 2011) and the BHPS exists as a separate subsample of the UKHLS (Bayliss et al., 2014). This allows a continuous analysis of the BHPS data in the years following 2008. These datasets are useful in exploring the economic and socio-psychological characteristics that affect housing tenure choices of young adults in the UK.

²⁹ See section 7.2 for more description of the data.

Table 3.2 of chapter 3 shows a cross-tabulation of age groups of heads of household by their home ownership and private renting rates. This is further segregated by those whose household income levels are either in the top or bottom twenty per cent of the total household sample specifically in the 1994/1995, 2004/2005 and 2011/2012 periods. Those that are yet to form a household or still in full-time studies are dropped from the sample, thereby leaving us with independent households. This resulted in 24,900 observations with 54 per cent as females. The applicable variables are shown in table 5.6.

Table 5.6: BHPS variable codes and meanings (for table 3.2 of chapter 3)

Variable codes		Meaning
<i>BHPS</i>	<i>USOC</i>	
pid	pid	Cross-wave personal identifier
hid	hidp	Household Identifier
sex	sex	Sex of respondent
age	dvage	Age of respondent
tenure	tenure_dv	Housing tenure of household
hgr2r	relationship_dv	Relationship to reference person (respondent)
fihhmn	fihhmngs_dv	Household income (month before interview)

Comparison between housing tenure of respondents below age 20 and their housing tenure at age 34 was carried out in table 3.3 of chapter 3. Only those that responded throughout the survey period are considered. The BHPS sample applied runs from 1991 to 2008 and produced 4,194 observations after excluding respondents aged over 20 at the initial wave or those initially not living/sharing with their (grand) parents. The average initial age is 18 years old and of which 45 per cent of the sample is female. The applicable variables are similar to those in table 5.6 (excluding *fihhmn*).

Another area where the BHPS was found useful is in section 2 of chapter 4 where it was specified that one per cent of young adults that became home owners indicated that they received an inheritance that may likely contain or be channeled into housing estates in the same year of transition. This check was carried out by limiting the BHPS waves to a 12-year period from 1997 to 2008. The reason for using this year period is because the information on individual inheritance receipt became available from 1997 onwards in the BHPS. After gathering the dataset, a percentage of young adults that indicated inheritance receipt worth

£10,000 or more (in 2005 prices) of the total first-time owners are estimated. The young adults considered are individual respondents aged 18-39 and were yet to become home owners as at 1997. The applicable variables are *paid*, *age*, *tenure* and *windfffy* (amount received as inheritance/bequest).

Again, figures 4.2 and 4.3 of chapter 4 depict young adults' mortgage debt to income ratio in percentages. Household reference persons in the BHPS from 1991 to 2013 that indicated they are mortgage owners are considered in this analysis. This resulted in 122,800 observations with an average age of 39 years old and 52 per cent of respondents as females. The applicable variables are shown in table 5.7.

Table 5.7: Variable codes and meanings (mortgage debt-income ratio, figures 4.2 and 4.3 of chapter 4)

Variable codes		Meaning
<i>BHPS</i>	<i>USOC</i>	
pid	pid	Cross-wave personal identifier
hid	hidp	Household Identifier
sex	sex	Sex of respondent
age	dvage	Age of respondent
xpmg	xpmg	Total monthly mortgage payment (month before interview)
fihhmn	fihhmngs_dv	Household income (month before interview)

Lastly, the BHPS/USOC was applied to the duration analysis of time to tenure transition in chapters 6 and 7. In these chapters, the longitudinal analysis involved the use of the Stata tool for linear regression of the BHPS at different intervals from the year 1991 to 2014/2015. According to Stephens (2011), housing cycles emanating from economic distortions have typically proven to have a huge impact on house choices. In view of this, housing market analysis touching different housing cycles can be better achieved in a long stretch of longitudinal data like this. The emphasis placed on young adults from the BHPS ensures the enhancement of differences in opportunities, competitive strength, inequalities and timing of their housing outcomes that have occurred over time.

Despite the interesting benefits, the continuous analysis of the BHPS using post-2008 data from the UKHLS may be a somewhat difficult task to take owing to some constraints. Some of these setbacks include differences in variable names, unique person identifiers and their matching

procedure. These difficulties may have resulted in a scarcity of housing tenure-related research that combines the BHPS with the UKHLS. These problems have been managed appropriately to fit into the empirical analysis in chapters 6 and 7.

A summary of key economic, demographic and housing variables in the BHPS is given in table 5.8.

Table 5.8: Codes of important BHPS variables applicable in chapters 6 and 7 and their meaning

Variables		
BHPS	UKHLS	Meaning
<i>Economic Variables</i>		
jbstat	jbstat	Employment status
jbft	Jbft_dv	Employed full or part-time
saved	-	Amount saved monthly
fihhyr	-	Annual household income
fihmn	fihmngrs_dv	Gross household monthly income
fihhyi	fiyrinvinc_dv	Annual household investment income
f154	bensta5	Payments from relations
fiyrl	fiynlabgrs_dv	Gross individual labour income
fi09T	frmnthimp_dv	Income estimate (month before interview)
qfedhi	qfhigh	Highest education qualification
<i>Housing Variables</i>		
tenure	tenure_dv	Housing tenure
spinhh	livesp	Spouse lives in the household
hhsz	hhsz	Size of household
hhst	hhst_dv	Type of household
rentg	rentg	Gross rent including housing benefit
rent	rent	Net rent
xphsg	-	Gross monthly housing cost
hscost	hscost	Property purchase price
mghave	-	Home mortgage or owned outright
mgyr04	hsyr04	Year current mortgage began
hsyr04	hsyrbuy	Year current home was bought outright

Demographic Variables

pid	pid	Cross-wave personal identifier
pno	pno	Respondent personal number
hid	hidp	Household identification number
hgfno	hgfno	Personal number of father
hgmno	hgmno	Personal number of mother
mastat	mastat_dv	Marital status
age	dvage	Age of respondent at last birthday
hgr2r	relationship_dv	Relationship to reference person
region2	gor_dv	Government office region
sex	sex	Sex of respondent
race	race1	Race of respondent
nkids	nkids_dv	Number of children in household
nch02	nch02_dv	Number of children in household aged ≤ 2
nch34	nch34_dv	Number of children in household aged 3 - 4
nch511	nch511_dv	Number of children in household aged 5 - 11
nch1215	nch1215_dv	Number of children in household aged 12 - 15
spinhh	livesp	Presence of spouse in household

Social Capital Variables

frna	scopngbhh	Frequency of talking to neighbours
orga	orga96	Whether member of any of the organisations on display
matel	macon	Frequency of making contact to mother (by telephone)
patel	pacon	Frequency of making contact to father (by telephone)
masee	macon	Frequency of making (physical) contact with mother
pasee	pacon	Frequency of making (physical) contact with father
lknbrd	llknbrd	Whether likes neighbourhood

Almost all the variables in the BHPS have their equivalents in the USOC. However, a few of these variables are not collected in the USOC. Within the income group, ‘*saved* (monthly savings amount)’ and ‘*fihhyr* (annual household income)’ were not collected in the UKHLS. Notwithstanding, ‘*saved*’ could be ignored while ‘*fihhyr*’ could be substituted with values obtained from household monthly income if needed. Under the housing group, the variables ‘*xphsg* (gross monthly housing cost)’ and ‘*mghave* (whether home owned by mortgage or

outright)' are not collected in the USOC. The gross monthly housing cost is not very crucial in this study. 'mghave' on the other hand can be easily derived from other related variables (such as tenure) if needed. Some other variables/data that are useful in this analysis such as regional house prices and consumer price index have been obtained from other databases.

5.7 Full description of data in use in chapters 6 and 7

5.7.1 Data in use in chapter 6

In chapter 6, the data specific to the regression is the first eighteen waves of the British Household Panel Survey (BHPS) tracing the respondents further into the UK Household Longitudinal Study (UKHLS). This refers to the years 1991 to 2008/2009 (18 waves) respondents, as well as tracing the individuals further to 2014/15 which resulted in a total of 24 waves of the BHPS. The BHPS collection originally started in 1991 with up to 5,500 households. The sample also contains individuals aged 18-34 and who are in four distinctive categories of the tenures such as owner-occupation³⁰, private renting³¹, social renting³² and living with parents³³. This provides us with a platform for testing the drivers of transitions into different housing tenures from any of the tenures of origin or remaining in the same tenure. Furthermore, the sample is restricted to individuals who are present in at least 3 consecutive waves of sample collection (Ermisch and Di Salvo, 1996, Curran et al., 2010). By following this approach, we are unable to avoid gaps in the sample but could secure a very good longitudinal data for every individual without losing much information in our 24-year survey³⁴. The number of individuals for each model is as shown in table 6.1. They represent individuals that were interviewed on or before age 34 and transitioned or remained in the same tenure in the years of the survey. The mean age of participants when they were first interviewed is 24 years and females cover about 52 per cent of the sample.

Table 5.9: Sub-division sample of longitudinal data in use and their transition pattern

³⁰ This includes heads of households (or partners) and indicated to either own their house outrightly or with mortgage.

³¹ This includes heads of households (or partners) and indicated that they live in the non-socially rented apartments.

³² This includes heads of households (or partners) and indicated that they live in either local authority or housing association housing.

³³ These are individuals excluded in the homeownership, private renting and social renting because they are yet to form households. They also include those in full-time education.

³⁴ See appendix 1 of this chapter for some full sample statistics of data under use

Origin tenure	(To)	(To)	(To)	(To)	Total
	Homeownership	Private renting	Social renting	Parental housing	
Homeownership	22,341	559	116	598	23,614
Private renting	1,132	4,819	404	468	6,823
Social renting	337	363	6,410	276	7,386
Parental housing	1,691	1,280	605	14,661	18,237
Total	25,501	7,021	7,535	16,003	56,060

Source: Author's own from the BHPS data

Table 5.9 also shows four different possibilities of transitions for the young adults. The number of transitions from parental housing to home ownership is more than from private renting to home ownership even though the latter transition is quite normal and highly intended for young adults. Staying in the same tenure is most likely to have the highest numbers in any tenure transition matrix. However, there are some transitions that are least likely except when they are as a result of chaos or unforeseen circumstances (Ford et al., 2002). Examples of such chaotic transitions are movements out of home ownership, into social renting or back to parental housing as a young individual. These instances may be felt in some of the lower numbers of transitions in table 5.9. Remaining in home ownership has the highest number as it is also the biggest tenure.

In this analysis, the sample collection has also been restricted to individuals who were aged 18 to 34 when they were first interviewed. This means that each respondent grows older every year until the 2014/15 analysis endpoint. The selection resulted in 9594 British individuals that were interviewed throughout the survey period. More individuals appear to make the transition to home ownership from parental housing than from private renting on or before age 34 in the period of the survey. This suggests that among these young adults, about 54 per cent of those that transitioned to home ownership followed the *'early nesters'* or *'stay at home to own'* housing pathway types suggested in Clapham et al. (2014). The data also includes full-time students who may be renting elsewhere and yet to form separate households. The survey covers only Britain because Northern Ireland data was only added from 2001 onwards.

The housing tenure variable has been recoded to four distinct housing tenure types which are home ownership, private renting, social renting and parental housing. It is assumed that the households excluding those that are still dependent or in parental housing are all independent

households. A household in literature means an individual or group of individuals living in a particular form of housing.

- *Owners* were coded as those that identified their housing tenure status as “owned outright or with a mortgage” and are specifically “household head or partners”.
- *Private renters* were coded as those that identified their housing tenure as “rented privately, furnished or unfurnished” and are specifically “household head or partners”.
- *Social renters* were coded as those that identified their housing tenure as either the “local authority” or “housing association” rented and as well are “household head or partners”.
- Lastly, the *parental housing* comprises of the individuals exempted from the first three groups or are currently in full-time study. Those currently in the full-time study have been exempted from the first three groups. Hence, it is assumed for instance, that those who became home owners during the period of the data collection were likely to be individuals/households that were in any of the other categories.

The annual transition rates by tenure status for British households are shown in table 5.10. The transition odds used is similar to the Markov transition pattern applied in Ermisch and Di Salvo (1996) when the data does not have a missing period as in this case. The rates were constructed based on the sample described above. The first column shows the tenure status in the starting wave while the other columns indicate the annual percentage change in different tenure status. The private rented sector has the lowest rate for those remaining in the same tenure. This means that the sector seems to act as a short-term transition sector among young British households (Andrew, 2012; Ermisch and Di Salvo, 1996), although this study does not show if the sector is still seen as that among young adults today. It also indicates that they tend to move to other tenures more than staying in the same as compared to other tenures. On the other hand, the percentage of individuals switching to owner occupation from other tenures seems to be highest among the private renters. However, those switching from owner occupation are highest among the dependent households. This is likely to be as a result of temporary moves.

Another notable indication from table 5.10 is that individuals of all ages are more likely to switch from private renting to owner-occupation than other tenures, provided they are not staying in the same tenure. Only individuals that fall in the below 24 age group are more likely

to switch to the parental household. This is likely to explain some young adults' pathways whereby they are still unstable in terms of tenure for reasons such as studies and jobs.

Table 5.10: Annual transition rates by tenure status for British households in the year 1991-2015

Tenure state in starting wave by age-group	Status in the following wave (percentages change)			
	Owner³⁵	Private renter	Social renter	Parental housing
<i>Aged 34 and below</i>				
Owner/Mortgagor	94.61	2.37	0.49	2.53
Private renter	16.59	70.63	5.92	6.86
Social renter	4.56	4.91	86.79	3.74
Parental housing	9.27	7.02	3.32	80.39
<i>Aged 24 and below</i>				
Owner/Mortgagor	84.2	3.92	1.01	10.87
Private renter	13.07	65.47	6.78	14.67
Social renter	2.57	7.36	81.4	8.67
Parental housing	6.35	6.88	2.97	83.8
<i>Aged 25-29</i>				
Owner/Mortgagor	94.57	2.42	0.60	2.41
Private renter	17.77	72.53	5.70	3.99
Social renter	4.86	4.67	87.78	2.69
Parental housing	15.64	6.37	4.15	73.84
<i>Aged 30-34</i>				
Owner/Mortgagor	96.75	1.86	0.28	1.10
Private renter	17.02	75.34	6.03	1.61
Social renter	5.12	3.22	90.38	1.28
Parental housing	14.00	5.26	4.37	76.38

³⁵ Owner as in outright owners or mortgage owners

Source: BHPS (56,060 observations)

5.7.2 Data in use in chapter 7

The data in use in chapter 7 is the BHPS (2001-2015), British Census data for 2001 and 2011 and the Indices of Multiple Deprivation IMD2004, IMD2007, IMD2010 and IMD2015 for England; WIMD 2005, WIMD2008, WIMD2011 and WIMD2014 for Wales; and SIMD2004, SIMD2006, SIMD2009 and SIMD2016 for Scotland. Data relating to neighbourhood quality (in terms of housing and education deprivation levels), percentages of individuals in different national statistic socioeconomic classes (NS-SEC) scales, academic qualification, unemployment rates and housing tenure rates are extracted from these sources. The analysis follows the notion that these measures could help to explain part of the objective influences of housing outcomes for young people. It further uses the Lower Super Output Area (LSOA) measurements for England and Wales, and data zones in Scotland. The Census data included data that relate to individuals aged 16-34.

It is important to note that the cross-sectional IMD indices consist of deprivation measurements relating to seven specific attributes in the LSOA that are housing barriers, accessibility to local services, income, crime, health, employment, living environment and education. In addition to these, there is a general measurement index of deprivation for each LSOA which a weighted mix of the seven attributes. This was achieved using wide-ranging resources of data covering 37 indicators of deprivation. IMD2004 in England, for instance, matches 2001 census data while IMD2015 matches the 2011 census data as the census years match closely to the years of IMD indicators assessment (Rabe and Taylor, 2010). This is also applicable to the indices of deprivation chosen for Scotland and Wales (See appendix C for a summary of IMDs and census data used). Across the data years, 32482 LSOAs were covered in England while 1909 were covered in Wales and 6505 data zones in Scotland resulting in 40896 small areas covered in all of Britain. Data zones have been categorized as the equivalent of LSOAs for this analysis (Leishman, 2009). Northern Ireland has been left out due to the unavailability of comparable deprivation data for this region.

The methodologies for IMD estimation for each country in Britain are different for each year and it is not advisable to attempt to construct a single national scale (Office for National Statistics, 2013). Payne and Abel (2012) try to make adjustments to the deprivation index in order to obtain a UK-wide comparison by using a linear regression approach for each country in the UK. This approach, however, tends to involve going back on the original procedure in

arriving at the IMD scores. Furthermore, it involves interfering with the IMD estimation. Keeping the estimates as they are while working with country-specific IMD scores is preferable, and this is the approach adopted here. Hence, quintile estimates of the overall IMD scores and for each IMD domain in each year of estimation have been created for each constituent country by using the quantile function³⁶ in Stata.

Household reference persons were considered in the tenure distribution in order to focus on heads of households and their spouses. Individuals aged 16 to 34 and living in parental housing may also be considered as private renters provided they pay a substantial amount of rent or live rent-free. The unemployment rate includes only those that are economically active and in either full or part-time employment, including full-time students provided they are in one form of employment or another, and excludes all economically inactive individuals. In the NS-SEC classification, full-time students were excluded for consistency reasons as they were not accounted for in the 2001 census.

Aside from creating a British deprivation index, housing and education deprivation domains are considered essential for this study as they offer more social effects in relation to the purpose of this study. The domains of deprivation found useful in this study are important components. Previous studies such as Bramley and Karley (2007) found a useful connection between educational levels of deprivation and housing tenure status in a social context. Smith et al. (2015) defined educational deprivation measurement as the shortage of achievements and abilities in a local area in relation to young people, older people or children. On the other hand, housing deprivation refers partly to lack of housing quality and accessibility (such as affordability) in an area. Each deprivation index is measured in scores and has been re-ranked into groupings such that group 1 is the most deprived LSOA while group 3 is the least deprived LSOA in each constituent country. This, therefore, prompts the ability to combine the three constituent countries into single British LSOA groups of ranking. By doing so, the possibility of interfering with the IMD scores is minimized. Finally, the census and deprivation data have been linked to the years closest to when the data is effective (i.e. census data) or in the case of deprivation data, when the indicator measurements are assessed³⁷ (Rabe and Taylor, 2010). By doing so, every individual is matched to their corresponding neighbourhood features reflecting in the census or deprivation data.

³⁶ See function (11) in chapter 6

³⁷ See appendix 2

Table 5.11: Previous housing tenure (including those previously in parental housing) vs transitions

Previous tenure	No transition	To HO (N=1031)	To PR (N=832)	To PH (N=663)
HO	51.75	0	21.88	46.76
PR	10.8	39.67	0	31.83
SR	12.46	11.4	19.47	21.42
PH	24.99	48.93	58.65	0
Total	100	100	100	100

HO = Homeownership; PR = Private renting; SR = Social renting; PH = Parental housing

The full sample statistics of the data in use are provided in Appendix C for the year 2001 to 2015. Data from the census and deprivation sample is merged to the BHPS sample through the lower super output area code relating to every individual's household. The original BHPS is restricted to years 2001 to 2014/15 for consistency with the neighbourhood data available. The age of individuals remains at 18-34 when they were first interviewed. The sample is also restricted to individuals who are present in at least 3 consecutive person-years of sample collection³⁸. This resulted in 5267 individuals across different housing tenures when they were first interviewed. Out of this, 1031 became home owners, 832 made the transition to private renting and 663 moved back to parental housing on or before age 34 in the period of the survey (table 5.11). The average age when they were first interviewed is 24 years and females constitute 54 per cent of the sample. Some shock variables are included, especially in models of transitions to parental housing. For instance, partnership formation and break-up are included in transition to parental housing rather than 'presence of spouse in the household at the point of transition'³⁹. Another variable showing a shock occurrence is job loss that replaces full or part-time work variables in parental housing transition models.

5.7.3 Duration intervals

The duration intervals applied are the years covering the survey period in use. The inclusion of the duration intervals in all models (although not reported for brevity) is deemed necessary as suggested in Singer and Willett (2003). BHPS samples are collected at intervals rather than specific years. Hence, taking this approach ensures that the duration is estimated at intervals in the model, and not the actual year of occurrence as we have in the data collection (Ryu, 1994).

³⁸ The same procedure as described in section 7.2.1 of this chapter.

³⁹ This is the same as the variable used in section 6.3.6 of chapter 6.

By including the time of event occurrence in the models, time to tenure transition can be observed as a series of binary covariates denoting whether or not the individual survived each interval.

5.7.4 *Equivalised Wage rate*

The measurement of household income can be best obtained on a monthly basis from the BHPS. In this regard, every household has a record of their month-before-interview income estimate. Ermisch and Di Salvo (1996) made use of the current income of respondents in their study. Alternatively, expected income can also be applied as in the case of Haurin et al. (1994) and Andrew (2012). This follows the concept of permanent income prediction which relies on the expected long-term regular income and other factors which are likely to affect a consumer's utility behaviour on lasting commodities. Here, an equivalised income approach has been adopted using income received (in the month before the interview) variable. This variable is present both in the BHPS and the UKHLS. It is believed that household income of an individual before tenure transition would equate to the summation of incomes of all individuals present in the same household, thereby causing an endogeneity problem. For instance, a young person living/sharing in parent's home before tenure transition carries the household income of the entire household, which does not match his/her income after forming a new household and transitioning into a new tenure.

Equivalisation is a typical procedure that deals with the adjustment of household income to cater for different monetary needs of different households' make-up and size (Giles Horsfield, 2012). This is because different households have different levels at which they will need to meet their standard of living depending on their composition. The use of a suitable scale is also essential in the construction of the equivalised income variable. In this case, the McClements scale (before the deduction of housing costs) is adopted as it is the conventionally preferred methodology among UK researchers (Chanfreau and Burchardt, 2008). This is because it makes room for comparisons with outcomes obtained from government studies. There are no concerns of collinearity with age group dummies as an additional adult in the equivalisation build-up does not reflect a specific sample age group. An assumed 1600 working hours a year is further used as a divider to arrive at an equivalised annual wage rate. The consumer price index (CPI) is also employed in order to adjust for inflation during this period. The CPI function applicable is:

$$CPI = \frac{(\sum_{i=1}^n CPI_i * weight_i)}{\sum_{i=1}^n weight_i} \quad (10)$$

Where the $weight_i$ refers to different year periods.

5.7.5 Labour market status

The labour market status is seen as important in the determination of housing tenure choice influences. One way to include this is to apply the regional unemployment rates obtainable from the ONS statistics database. This could be achieved by using a seasonally adjusted series and thereby applying it specifically to the regions and age group in which the individual belongs. The unemployment rate as specific to the 18 to 49-year-olds is provided in smaller bands in the ONS database. However, regional unemployment rates are not used in this model because of their insignificance in Andrew (2012). Instead, their labour market status was used. In the BHPS, they fall in any of the three categories of employed full-time, employed part-time or unemployed at the time they change tenure.

5.7.6 Real net rent

The net rent is given in the BHPS for each individual's household. Net rent refers to the household's annual rent excluding benefits. An alternative approach to finding the effect of rent is to include housing costs which cover both rent and mortgage for renters and mortgage home owners respectively. However, housing costs were ignored so as to avoid collinearity with net rent. It would not also be appropriate to consider mortgage costs in certain transitions, e.g. home ownership transition. Furthermore, the rent included in the monthly housing costs also includes benefits which is not needed in this estimation (besides, this research is more concerned about the real net rent of every household prior to tenure transition). Hence, the CPI function described in expression (10) has also been used to adjust each household's annual net rent for inflation.

5.7.7 Local Authority District (LAD) and LSOA house prices

The local authority districts and LSOA house prices are useful at the point of housing tenure transitions in chapters 6 and 7 respectively, to further align with devolved geographical area data. In this sense, the ONS annual lower quartile house prices have been employed as first-time buyers are more likely to operate in this market. The house prices are further adjusted to real terms in 2005 prices and then distributed into 4 quantiles. The house price variable is essential in ascertaining the effect of the user cost of home ownership. User cost of home ownership refers to the opportunity cost of choosing a particular housing tenure over another,

i.e. owning instead of renting privately. It is the return that could have been earned by choosing a different housing tenure. The local house prices are suitable measuring variable because they incorporate a large size of the difference in the estimation of households' user cost of homeownership (Ermisch and Di Salvo, 1996). Other components in the estimation of user cost, such as mortgage and council tax rates which are mostly set on a national scale, have very little regional and time variation, unlike the regional house prices. Considering that the focus group are young adults who are more likely to fall into the FTB category or operate in the lowest end of the housing market, this study uses the ONS lower quartile regional house prices in real terms (Jones *et al.*, 2010).

Afterwards, the concept of quartiles has been introduced to divide the data sample into four equal proportions of house prices. The reason for introducing this into the statistical model is to better illustrate the trend by applying a relatively newer and clearer perspective (Gilchrist, 2000). The advantage of equal-sized groups is that it enabled a better understanding of different levels in the explanation of its relationship with home ownership transition. In this scenario, regional house prices have been proportioned so that a new regressor was created with four cut off points at percentiles equivalent to percentages. We would expect a higher regional house price to discourage transition into home ownership. The applicable quantile function thus:

$$\text{Quantile } Q = \frac{100 * k}{m} \quad (11)$$

Where $k = 1, 2, \dots, m-1$ and;

m = number of quantiles.

5.7.8 Demographic components

Demographic variables applicable are individuals' sex, age, the presence of a spouse, number of children in the household, race and specific regions. Sex was clearly defined as either male or female as used in most studies. The few respondents that did not indicate their sexual orientation were excluded from the analysis since other sexual categories were not represented in the early part of the BHPS collection. The presence of spouse in the household is measured in the BHPS and this was recoded as a dummy variable for the purpose of this analysis. A similar covariate is an indication of whether an individual entered into a partnership at the point of transition, as applied in Ermisch and Di Salvo (1996). This is also important because it shows an intent towards a possible tenure switch in the near future by forming a household. Moreover, such decisions bring about easier means, which may be largely financial. Partnership changes

form an important part of demographic components of tenure transitions. Here, variables that describe instances of partnership formation and break-up prior to housing tenure transitions are constructed. In the BHPS, individuals answered to personal questions whether they are in one form of partnership or not. Hence, it is possible to track the year they either joined or left a partner and how this may have influenced their tenure mobility.

The number of children in a household comprises a variable specifically defined by the count in the BHPS. Also provided in the BHPS data collection are the variables specifying the age of individuals in the household. This was further grouped to form discrete variables. Discrete regional variables specific to an individual's region at the time of data collection was also included in the specification. Lastly, race has been recoded as either white or non-white.

5.7.9 Social capital drivers

Years of stay in parental housing is constructed to form a path-dependency variable. Recent findings suggest that young people's housing outcomes are connected to their parents' housing tenure in some way (Coulter, 2016, Wagner, 2014). However, the number of years lived in parental housing, and in this case, parental home ownership may further improve the explanations surrounding path-dependency for young adults' housing tenure decisions and their possibility to transition into homeownership. This will provide the extent or possibility of tenure duplication depending on the length of time lived in parental tenure. In deriving this variable, BHPS variables – *mgyr04* and *hsyr04*⁴⁰, both representing the year a household's home became owner occupation, were collected. In the BHPS, individuals aged less than 35 years and are yet to form independent households are categorised under their (grand) parents' households. Hence, the number of years of home ownership for a household is calculated and matched with household individual's age at the year of survey and prior to becoming independent or changing household. Respondents whose parental tenure is not owner occupation are given zero value as the number of years lived in parental home ownership.

Some other social capital components can be tested in housing tenure transition models. As discussed earlier in chapter 4, some social capital drivers appear to be linked to housing tenure status in some studies. However, social influences such as “a feeling of integration in one's neighbourhood”, “local organisation participation” and “closeness to parents” have not been tested in any tenure transition models. Connections to a certain group of people are known to enhance individuals' behaviour towards a certain goal/achievement. For these reasons, the

⁴⁰ These are recorded as *hsyr04* and *hsyrbuy* in the UKHLS sample respectively.

models also include some BHPS variables relating to indication of neighbourhood likeness (*lknbrd*); frequency of talking to neighbours (*frna*); level of activeness in a local organisation (*orga*); and frequency of physical or telephone contact with father or mother (*masee*, *pasee*, *matel*, *patel*).

5.8 Limitations to the research design

The research could have been produced on a wider scale if all the required data could be accessed. Wider coverage could have included the Northern Ireland (NI) data to form a UK exploration. However, certain NI data could not be exploited. For instance, NI sample was not available in the BHPS before 2001. Furthermore, it is challenging to obtain a suitably collated census and deprivation data for Northern Ireland for the purpose of this research. Again, deprivation data only became available from the early noughties onwards, so that testing neighbourhoods' effects in a model containing BHPS sample before that.

5.9 Conclusion

From the above, it is clear that the research methodology and design are essential for proper output. This study particularly adopts a strategy that builds on the idea developed from a review of the UK housing market and further explores this idea in a quantitative analysis. The sources of data are mostly relating to Britain. Several data sources applicable in chapters 2 and 3 have been explained, especially how they were collected and applied.

Choosing a suitable research design implies the understanding of the data in use, followed by a suitable testing approach of the ideas in a longitudinal design framework. More importantly, the research design adopted follows the dataset available for this research, i.e. the BHPS, which is readily available in longitudinal discrete-time distribution. The data available calls for a logistic regression analysis of event occurrence. However, there are different variants, of which the most applicable are the Cox proportional hazards model or the discrete-time logistic regression. The Cox proportional hazard would, however, not suit the data in use, as it is best suited for continuous-time distributions unlike the discrete-time distribution in use. The most appropriate methodology to the study dataset is the discrete-time logistic regression of event occurrence. The study is limited partly by geographical coverage and data availability.

The study continues in the next chapter by testing social capital drivers exclusively alongside other established drivers in discrete-time logistic regression models.

6 Multinomial mixed effects models of housing tenure transitions

6.1 Introduction

Time to an event occurrence, and in this case, housing tenure transition is being carried out to empirically investigate the influences of housing tenure decisions among British young adults. The literature that captures tenure decision making among the UK young adults were reviewed in the previous chapters. Furthermore, the testing approach has been established in chapter 5, including the description of the methodology. It is therefore necessary to update our knowledge on recent trends and timing of tenure transitions using well-established variables and social capital drivers that reflect those established in previous chapters. Furthermore, it is also essential to update our knowledge on the changes that may have occurred over the last two decades. Having developed the model applicable to our regression analysis of time to an event occurrence in the previous chapter, an innovative approach is taken in this chapter by tracing the BHPS respondents from 1991 to 2014/2015 inclusive. Social capital drivers are exclusively included in the models alongside other established drivers in multinomial logistic regression models. The next section therefore follows up with the data description.

Before carrying out the regressions, it would be great to have a feel of the dataset, to understand movements across tenures. This can be achieved using the Markov transition matrix. Afterwards, multinomial logistic regression analysis of the BHPS is considered crucial for understanding the factors contributing to specific transitions (or pathways). This is carried out from section 6.2 onward. The descriptions of empirical results follow the analysis and the chapter concludes with summary and recommendations.

6.2 Model specification

The multinomial logistic regression specification employed in this section is derived from the combination of different probabilities. Four different response variables are constructed to each predict movements out of private renting, social renting, parental housing or homeownership. For each predictor, individuals possess the risk of making the transition into other three housing tenures or remain in the same tenure. Hence, for each response variable, there are four probabilities of tenure choice $Y_{ij} = 1$, $Y_{ij} = 2$, $Y_{ij} = 3$ and the reference choice $Y_{ij} = 0$ denoting remaining in the tenure of origin. Equation (12) for example denotes the probability of an individual ' i ' moving into a different tenure at a time ' j ' relative to remaining in the tenure of

origin, and β represents the coefficients of our covariates X . The same procedure is also repeated in (13) and (14) in each model.

$$\Pr(Y_{ij} = 1) = \frac{e^{\beta_1 \cdot X_{ij}}}{\sum_{k=1}^K e^{\beta_k \cdot X_{ij}}} \quad (12)$$

$$\Pr(Y_{ij} = 2) = \frac{e^{\beta_2 \cdot X_{ij}}}{\sum_{k=2}^K e^{\beta_k \cdot X_{ij}}} \quad (13)$$

$$\Pr(Y_{ij} = 3) = \frac{e^{\beta_3 \cdot X_{ij}}}{\sum_{k=3}^K e^{\beta_k \cdot X_{ij}}} \quad (14)$$

Summation of outcomes ‘ k ’ obtained in the models is reported in relative risks ratio (and z -values). All models show statistical significance from the likelihood ratio test. The results are presented at 5 per cent confidence interval except otherwise stated.

The model results in tables 6.4 to 6.7 describe the odds ratio (and z -values) of changing tenure relative to remaining in the same tenure. Each model is unique in their sample size (i.e. number of individuals) which translates to the differences in log likelihood. However, all models are statistically significant after the likelihood ratio tests.

The models are based on respondents selected within the specific age range and switched tenure before they reached the age of 35 throughout the study. The summary statistics of useful variables are as shown in table 6.3. (A table of owner-occupiers by age groups in the starting wave is shown in appendix A).

Table 6.1: Summary statistics for the variables under use⁴¹

Variable	Obs	Mean	Std. Dev.	Min	Max
HO transition dv	65654	0.044	0.302	0	3
PR transition dv	65654	0.026	0.239	0	3
SR transition dv	65654	0.067	0.365	0	3
Parental housing transition dv	65654	0.036	0.299	0	3
Wage rate $t-1$	56316	0.698	1.425	0	66.75

⁴¹ The observations cover the 24 years of survey (i.e. from 1991 – 2014 inclusive)

Working full time $t-1$	53667	0.610	0.488	0	1
Part time work $t-1$	65654	0.150	0.357	0	1
Unemployed $t-1$	65654	0.258	0.438	0	1
Job loss	65654	0.050	0.217	0	1
Female, ref=male	65654	0.530	0.499	0	1
Age 25-29 $t-1$, ref= age less than 25	53667	0.326	0.469	0	1
Age 30-34 $t-1$	53667	0.291	0.454	0	1
No child $t-1$	53667	0.560	0.496	0	1
Children 1-2 $t-1$	53667	0.370	0.483	0	1
Children 3-4 $t-1$	53667	0.067	0.249	0	1
Children 5 plus $t-1$	53667	0.004	0.061	0	1
Non-white, ref=white	65654	0.307	0.461	0	1
Presence of spouse	65654	0.516	0.500	0	1
Joined partner	65654	0.041	0.199	0	1
Split from partner	65654	0.008	0.091	0	1
5-9 YPH, ref= <5	65654	0.008	0.088	0	1
>9 YPH	65654	0.011	0.104	0	1
Quintile 2 HP $t-1$, ref=quintile 1	53667	0.271	0.445	0	1
Quintile 3 HP $t-1$	53667	0.226	0.418	0	1
Quintile 4 HP $t-1$	53667	0.211	0.408	0	1
Net rent £000 $t-1$ (lagged)	56325	0.790	2.266	0	49.04
Likes neighbourhood $t-1$	53667	0.879	0.326	0	1
Moderately talk to neighbours $t-1$, ref=(more) often	50920	0.168	0.374	0	1
Less often or never $t-1$	50920	0.154	0.361	0	1
Active in any organisation $t-1$, ref= not active	53667	0.379	0.485	0	1
Contact parent(s) sev. times a year $t-1$, ref= 1ce a wk or more	53667	0.217	0.412	0	1
Less often contact with parent $t-1$	53667	0.566	0.496	0	1

Note: dv = Dependent variable; $t-1$ =lagged by a year; HO = Home ownership; PR = Private renting; PH = Parental housing; HP = Local Authority District house prices

6.3 Empirical results

The results are reported in relative risks ratio and z values over 12 models as displayed in tables 6.4 to 6.7. Table 6.4 represents tenure transitions from the PRS to other tenures; while table 6.5 displays the results from the regression of movements from the social rented sector (SRS) to other tenures. Tables 6.6 and 6.7 represent the transitions from parental housing (PH) and home ownership (HO) respectively. The significance level for all interactions is set below 5 per cent except where otherwise stated. The models take on an inventive approach by tracing up original BHPS individuals in the UKHLS. The models describe the effect of a unit change in one variable on the risk of making the transition, relative to the risk (odds) of remaining in the same tenure. From the likelihood ratio (LR) test, all models show statistical significance.

Another addition to the Relative Risks Ratio (rrr) is the presentation of Average Marginal Effects (AME). Estimation of marginal effects is another common means whereby the effects of covariates in non-linear models can be made more instinctively meaningful. Marginal effects in this context summarise how a change in any of the covariates affects the probability of making a tenure transition. The interpretation for categorical covariates infers a discrete change while that of continuous covariates should relate to instantaneous rate of change⁴². The AME specifically is first calculated for everyone's observed levels of covariates and then averaged across all individuals. Alternatively, Marginal Effect at the Mean (MEM) can be applied by setting values of covariates to their means within the sample. However, Cameron and Trivedi (2009) suggests that AME is much better in its estimation.

Labour market conditions are very important predictors of tenure shifts. In table 6.6, respondents appear to be highly likely to switch from parental housing to other tenures by about 1.4 odds with a unit increase in their wage rate. The suggestion here is that young individuals are eager to leave their parental homes to form separate households and this tended to also relate to their ability to afford whichever tenure they could move to. The result also demonstrates the tendency of some individuals to stay at home until they can afford their own place. This may explain the results from the young adults' lower possibilities of making the transition into home ownership from private renting by 0.9 odds, relative to remaining in the same tenure, following a unit increase in wage rate (table 6.4). The risk of switching from social renting to other tenures relative to remaining in the same tenure showed no significant

⁴² Only discrete changes were determined as they are likely to be truer than AMEs for instantaneous rate of change. AMEs for continuous predictors can however be determined at specific points. See ROYSTON, P. 2013. *marginscontplot: Plotting the marginal effects of continuous predictors. Stata Journal*, 13, 510-527.

effect on the wage rate. This means other factors may be responsible for this move rather than wage rate.

One of these other factors is being unemployed with reference to being in full-time employment. Relative to remaining in parental housing and being employed full-time, young adults are less likely to make the transition to home ownership by 0.6 and 0.8 odds if they were working part-time and unemployed respectively (table 6.6). In the same table and under the same reference points, they are more likely to move to private renting and social renting by 1.6 and 2.2 odds respectively if they are unemployed. Unemployed individuals are likely to depend on housing benefits if they are also renting at the same time. From private renting, young people are more likely to remain in the same tenure rather than switching to parental housing or home ownership if they are unemployed or in part-time work, but more likely to transition to the SRS by 2.2 odds if they were unemployed. Young adults may find it hard moving back to their parental housing after being in owner occupation due to embarrassment (Clapham et al., 2014), thereby settling for intergenerational assistance with their mortgage, pending finding another job. However, from the results presented in table 6.7, if the respondents lost their jobs, the relative risk of returning to parental housing from home ownership increases marginally by 1 percentage point (or about 0.6 odds).

It therefore shows that young people represented in the study have the tendency of staying longer in parental housing until they become independent and are able to secure home ownership due to their employment position. But they may be able to secure for themselves any of the rented tenures. The suggestion is that they could obtain assistance into either of the rented tenures more easily than home ownership as they seek independence, whereas those who believe they deserve home ownership may remain in their parental housing for longer period of time. With the loss of job, however, the situation becomes a dire one, and may have to return to their parental housing.

Table 6.2: Multinomial logistic regression tenure transitions from PRS

<i>Established variables</i>	To HO				To SR				To PH			
	rrr	z-value	AME	sig	rrr	z-value	AME	sig	rrr	z-value	AME	sig
Wage rate ^c	0.867	-3.00	-0.0014	***	1.198	1.52	0.0007		0.897	-1.09	-0.0004	
Wage rate squared ^c	1.002	1.66	0.0000	*	0.966	-1.42	-0.0001		0.995	-0.25	0.0000	
Part time, ref=full-time	0.470	-5.31	-0.0072	***	1.020	0.10	0.0002		0.608	-2.70	-0.0019	**
Unemployed	0.430	-6.55	-0.0082	***	2.213	5.67	0.0030	***	0.754	-1.96	-0.0010	*
Female, ref=male	1.273	3.37	0.0023	***	0.987	-0.10	-0.0001		1.418	3.19	0.0014	***
Age 25-29, ref= age less than 25	1.277	2.85	0.0037	***	1.107	0.73	0.0007		0.582	-4.13	-0.0033	***
Age 30-34	0.347	-10.13	-0.0085	***	0.222	-8.97	-0.0049	***	0.077	-11.2	-0.0073	***
Children 1-2, ref=no children	0.513	-7.28	-0.0064	***	1.785	4.17	0.0022	***	0.554	-3.79	-0.0023	***
Children 3-4	0.161	-5.92	-0.0175	***	2.259	3.95	0.0032	***	0.355	-2.02	-0.0038	**
Children 5 plus	0.913	-0.13	0.0036		0.000	-0.01	-0.0520		0.000	-0.01	-0.0552	
Non-white, ref=white	1.561	1.26	0.0044		0.538	-1.18	-0.0023		0.982	-0.05	-0.0001	
Presence of spouse	3.757	14.15	0.0130	***	1.567	3.22	0.0015	***	0.313	-7.93	-0.0050	***
Quintile 2 HP, ref=quintile 1	1.080	0.82	0.0008		0.790	-1.49	-0.0010		0.934	-0.43	-0.0003	
Quintile 3 HP	0.873	-1.14	-0.0012		0.791	-1.23	-0.0009		0.852	-0.86	-0.0006	
Quintile 4 HP	0.916	-0.63	-0.0008		0.621	-2.10	-0.0017	**	0.893	-0.55	-0.0004	
Net rent £000 ^c	1.308	33.64		***	1.212	13.82		***	1.216	18.99		***
Social capital variables												
5-9 YPH, ref= <5	0.637	-0.84	-0.0039		0.000	-0.01	-0.0037		3.463	1.96	0.0093	*

>9 YPH	0.847	-0.40	-0.0019		0.000	-0.02	-0.0037		4.738	4.40	0.0136	***
Likes neighbourhood	0.673	-3.71	-0.0037	***	0.519	-4.56	-0.0023	***	0.891	-0.66	-0.0004	
Moderately talk to neighbours, ref=(more) often	1.200	2.05	0.0018	**	1.220	1.28	0.0008		0.872	-0.91	-0.0006	
Less often or never	1.388	3.49	0.0033	***	1.014	0.09	0.0000		1.200	1.38	0.0007	
Active in any organisation, ref= not active	0.906	-1.35	-0.0009		0.655	-3.24	-0.0015	***	0.862	-1.28	-0.0006	
Contact parent(s) sev. times a year, ref= once a week or more	1.134	1.37	0.0015		0.941	-0.38	-0.0003		1.137	0.77	0.0006	
Less often contact with parent	0.591	-5.08	-0.0047	***	0.691	-2.41	-0.0013	**	0.720	-2.05	-0.0012	**
Constant	0.020	-15.03		***	0.003	-9.26		***	0.047	-8.66		***
<i>Post-estimation/goodness of fit tests</i>												
<i>N</i> (Observations)	86717											
Model wald chi ²	chi ² (135)=3684.07 ***											
Log-likelihood	-7760.34											

Note: HO=Home ownership; PR = Private renting; PH = Parental housing

*** denotes significance at 1%; ** at 5%; and * at 10%

^c indicates a continuous rather than discrete measure

When testing for some demographic variables, comparing male to female individuals is usually important in tenure transitions. Females are known to have a higher risk of tenure transitions compared to males. They are equally likely as males to move to the PRS or SRS. When in home ownership or SRS, they are also equally likely as males to switch to other tenures. However, they have more risk than males to make the transition from private renting to home ownership or parental housing by about 1.3 and 1.4 odds respectively. Also, with reference to individuals aged 24 and below, those aged 25-29 and 30-34 have a lower risk of returning to their parents if they were in any of the rented sectors. However, those aged 25-29 are more likely to make the transition to home ownership while those aged 30-34 have a lower risk of transition to home ownership or private renting. Individuals may find themselves more stuck in their previous tenure as they get into their 30's in comparison to younger age groups. The same trend is also evident in their possibility of remaining in owner occupation (table 6.7). Individuals aged 30-34 and in home ownership have a lower risk of leaving their tenure for any of the other tenures. Furthermore, respondents older than 24 years are less likely to leave their parental housing for any of the tenures (table 6.6).

The number of children in the household also shows interesting interactions with tenure transitions. Having no child in the household is the reference point. With increasing number of children, it is more likely for young adults to move from social renting to other tenures. However, there is a lower risk of moving to homeownership or parental housing for those with 1-2 and 3-4 children in their households by about 0.5 odds and 0.2 odds respectively. The odds of transition from the PRS to SRS increases by about 2 points, provided individuals have 1-2 children or 3-4 children in the household. Parental housing stay results in lower risk of transition to home ownership or private renting by 0.4 and 0.2 odds with the presence of 1-2 children and 3-4 children in households respectively. While in home ownership, individuals with 1-2 children in a household possess a lower risk of transition to private renting and parental housing by about 0.8 and 0.7 odds but higher risk of moving to the SRS by about 3 odds. Meanwhile, those with 3-4 children have a lower risk of transition to the PRS by 0.6 odds but higher risk of moving to the SRS by 3 odds (at 5 percent significance level). From the above, it appears to be less likely that a switch to home ownership or return to the parental housing occurs with increasing number of children provided the individual is in any other tenure aside SRS. A switch to private renting is more likely from any of the tenures aside parental housing and with additional children in a household.

From parental housing, non-whites also have a lower risk of transition to any of the rented sectors at a marginal rate of about 1 per cent. They are also less likely to transition from SRS to private renting by 0.1 odds (at 5 per cent significance level). They are, however, equally likely as whites to make other transitions. Partnership presence in the household is another important demographic predictor in tenure transition models. This could also be replaced by shock predictors such as joining or breaking up with a partner in some transitions that may look chaotic. In all the models represented in tables 6.4 to 6.7, the presence of a spouse in the household is more likely to make the transition to a different tenure, except for a return to the parental housing that is less likely. In table 6.7, joining a partner increases the risk of transition from home ownership to the PRS and SRS by about 2 odds and 4 odds respectively but reduces the risk of a return to the parental housing by about 0.3 odds. In the same table 6.7 (i.e. relative risk of transition from home ownership), splitting from a partner, however, shows high odds of transition to the PRS, parental housing and the SRS by 9, 11 and 12 odds respectively.

The inclusion of two housing factors is coherent with previous housing tenure choice models. Converting regional house price to four quintiles, with the lowest quintile (or least level of house prices) as a reference point also makes the interpretation more interesting. For instance, individuals faced with higher levels of house price have an equal risk of transition from private renting or home ownership to other tenures (tables 6.4 and 6.7). But one would expect that with increasing levels of house prices, individuals would find it hard securing home ownership, which could have resulted to lower risks of transition. The suggestion here is that individuals are equally likely to move from or continue in private renting regardless of levels of house prices in their locality. However, if they were renting socially, they are increasingly less likely to switch tenure with increasing levels of house prices in their area. As house prices increase/decrease, it is expected that these changes will also reflect on rental prices in the open market. Those faced with increasing house prices despite being in home ownership are likely going to maintain their tenure status despite possible increase in mortgage rates.

Table 6.3: Multinomial logistic regression of tenure transitions from SRS

<i>Established variables</i>	To HO				To PR				To PH			
	rrr	z-value	AME	sig	rrr	z-value	AME	sig	rrr	z-value	AME	sig
Wage rate ^c	0.862	-1.18	-		0.996	-0.07	0.0000		1.190	1.33	0.0005	
			0.0005									
Wage rate squared ^c	1.001	0.05	0.0000		0.999	-0.20	0.0000		0.960	-1.56	-0.0001	
Part time, ref=full-time	1.147	0.81	0.0005		0.829	-0.91	-		1.260	1.15	0.0006	
							0.0006					
Unemployed	0.718	-1.88	-	*	2.021	4.90	0.0023	***	1.692	3.24	0.0014	***
			0.0011									
Female, ref=male	1.072	0.51	0.0002		1.203	1.41	0.0006		1.027	0.18	0.0001	
Age 25-29, ref=age less than 25	1.678	2.96	0.0028	***	1.168	1.09	0.0010		0.723	-1.98	-0.0015	**
Age 30-34	0.467	-4.10	-	***	0.214	-8.86	-	***	0.112	-9.79	-0.0048	***
			0.0022				0.0046					
Children 1-2, ref=no children	3.527	7.81	0.0041	***	2.483	6.26	0.0030	***	2.385	5.77	0.0022	***
Children 3-4	3.849	5.92	0.0044	***	3.397	5.85	0.0040	***	1.778	1.89	0.0014	*
Children 5 plus	5.188	2.24	0.0056	**	2.881	1.45	0.0040		0.000	0.00	-0.0436	
Non-white, ref=white	0.350	-1.03	-		0.140	-2.72	-	**	0.821	-0.53	-0.0004	
			0.0034				0.0065					

Presence of spouse	2.543	5.07	0.0031	***	0.783	-1.76	-	*	0.252	-7.45	-0.0036	***
									0.0008			
Quintile 2 HP, ref=quintile 1	1.147	0.97	0.0006		0.732	-1.81	-	*	0.625	-2.37	-0.0017	**
									0.0013			
Quintile 3 HP	0.595	-2.52	-	**	0.617	-2.32	-	**	0.511	-2.89	-0.0022	***
									0.0016			
									0.0018			
Quintile 4 HP	0.435	-3.18	-	***	0.500	-2.89	-	***	0.342	-3.97	-0.0030	***
									0.0022			
									0.0024			
Net rent £000 ^c	1.148	10.24		***	1.092	5.37		***	1.046	1.81		*
Social capital variables												
5-9 YPH, ref= <5	6.373	2.34	0.0165	**	0.000	0.00	-		0.913	-0.09	-0.0002	
									0.0035			
>9 YPH	0.000	0.00	-		0.000	-0.01	-		0.776	-0.34	-0.0006	
									0.0033			
									0.0035			
Likes neighbourhood	0.292	-8.99	-	***	0.352	-7.68	-	***	0.629	-2.63	-0.0012	**
									0.0040			
									0.0034			
Moderately talk to neighbours, ref=(more) often	1.046	0.26	0.0002		0.862	-0.82	-		0.556	-2.60	-0.0013	**
									0.0005			
Less often or never	0.928	-0.38	-		1.053	0.32	0.0002		0.763	-1.45	-0.0007	
									0.0002			

Active in any organisation, ref= not active	0.944	-0.46	-	0.610	-3.37	-	***	0.415	-4.60	-0.0023	***
			0.0002					0.0016			
Contact parent(s) sev. times a year, ref= once a week or more	0.863	-0.88	-	1.363	1.94	0.0012	*	0.812	-0.99	-0.0006	
			0.0005								
Less often contact with parent	0.835	-1.16	-	0.864	-0.92	-		0.884	-0.71	-0.0003	
			0.0006					0.0004			
Constant	0.004	-12.06		0.005	-8.46		***	0.008	-7.43		***

Post-estimation/goodness of fit tests

N (Observations) 86717

Model wald chi² chi²(135)=1504.67 ***

Log-likelihood -4747.11

Note: *HO=Home ownership; PR = Private renting; PH = Parental housing*

*** denotes significance at 1%; ** at 5%; and * at 10%

^c indicates a continuous rather than discrete measure

From table 6.6, it is evident that young adults would rather switch from their parents housing to renting if house price levels increase in their area. But in the same parental housing, they are equally likely as those faced with the lowest quintile of house prices to switch to home ownership. A unit increase in rent per thousand means that an individual in parental housing has a lower risk of entering home ownership or social renting by about a unit odd. However, those renting privately or socially are likely to enter other tenures by about the same number of odds with a unit increase in rent per thousand.

The number of years lived in a Parental Home ownership (YPH) is an important variable that describes path-dependency, especially for those who have lived in a parental home ownership and may want to continue in an owner occupation. The same individuals may also decide to stay in parental housing until they are able to afford their own home or pass through private renting. Home ownership or parental housing is particularly important to individuals that have spent a certain number of years growing up in parental home ownership. This effect is more educative than having lived in the same tenure as their parents at some points in the past, as shown in some recent literature. Having lived for 4 years or less in parental home ownership is coded as the reference point in all the models. Individuals with 5-9 YPH and above 9 YPH have a higher risk of returning to parental housing from home ownership or private renting by about 3.2 and 4.6 odds respectively. If however, they were in parental housing and with above 9 YPH, they have a lower chance of entering home ownership by 0.3 odds. It shows how much it could mean to live in parental home ownership as they are likely to remain there for longer with more years of occupation in their parental housing.

Other social capital drivers are also important. Individuals that indicated their likeness for their neighbourhoods and rented privately possess a lower risk of entering homeownership and social renting by 0.7 and 0.5 odds respectively, but are equally likely as those who do not like their neighbourhoods, to return to their parents. When renting socially, they are also less likely to switch to home ownership or private renting by about 0.3 odds or return to their parents (by about 0.6 odds) if they liked their neighbourhoods. However, respondents that liked their neighbourhoods are equally likely as others, to leave home ownership. It would be expected that if a home owner liked the neighbourhood, there may be lower chances of leaving the same neighbourhood rather than the tenure. This suggests that other reasons could better explain movements out of the home ownership tenure, rather than neighbourhood likeness.

Table 6.4: Multinomial logistic regression of transitions from parental housing

<i>Established variables</i>	To HO				To PR				To SR			
	rrr	z-value	AME	sig	rrr	z-value	AME	sig	rrr	z-value	AME	sig
Wage rate ^c	1.374	11.50	0.0037	***	1.426	8.19	0.0034	***	1.405	5.82	0.0015	***
Wage rate squared ^c	0.991	-5.25	-0.0001	***	0.977	-4.21	-0.0002	***	0.984	-2.73	-0.0001	**
Part-time, ref=full-time	0.611	-4.19	-0.0061	***	1.315	2.65	0.0029	**	1.207	1.14	0.0009	
Unemployed	0.816	-2.29	-0.0027	**	1.566	5.41	0.0044	***	2.242	6.70	0.0037	***
Female, ref=male	1.131	1.92	0.0015	*	0.945	-0.80	-0.0006		1.025	0.23	0.0001	
Age 25-29, ref=age less than 25	0.486	-10.00	-0.0175	***	0.262	-14.26	-0.0228	***	0.339	-8.42	-0.0099	***
Age 30-34	0.063	-26.37	-0.0344	***	0.030	-22.85	-0.0306	***	0.045	-17.13	-0.0148	***
Children 1-2, ref=no children	0.378	-11.89	-0.0116	***	0.524	-7.46	-0.0061	***	1.204	1.62	0.0011	
Children 3-4	0.235	-6.50	-0.0171	***	0.283	-4.71	-0.0122	***	1.409	1.70	0.0020	*
Children 5 plus	0.000	-0.01	-0.1876		0.000	-0.01	-0.1490		1.622	0.67	0.0068	
Non-white, ref=white	0.449	-1.75	-0.0089	*	0.267	-3.15	-0.0125	***	0.092	-2.37	-0.0108	**
Presence of spouse	4.202	18.44	0.0171	***	1.755	7.14	0.0050	***	1.806	5.06	0.0025	***
Quintile 2 HP, ref=quintile 1	0.918	-1.05	-0.0012		1.425	3.51	0.0031	***	0.967	-0.25	-0.0002	
Quintile 3 HP	0.824	-1.82	-0.0024		1.471	3.28	0.0035	***	0.758	-1.63	-0.0014	
Quintile 4 HP	1.002	0.02	-0.0001		1.826	4.54	0.0060	***	0.613	-2.41	-0.0022	**
Net rent £000 ^c	0.786	-8.29		***	1.012	1.04			0.919	-2.54		**
Social capital variables												
5-9 YPH, ref= <5	0.947	-0.14	-0.0001		0.000	-0.02	-0.0107		0.000	-0.01	-0.0049	
>9 YPH	0.312	-2.21	-0.0085	**	0.000	-0.03	-0.0107		0.000	-0.02	-0.0049	
Likes neighbourhood	1.115	1.01	0.0014		0.934	-0.66	-0.0007		0.707	-2.60	-0.0016	**
Moderately talk to neighbours, ref=(more) often	1.096	1.13	0.0011		1.099	1.00	0.0009		0.893	-0.76	-0.0005	
Less often or never	1.102	1.06	0.0010		1.549	5.18	0.0048	***	0.920	-0.58	-0.0005	
Active in any organisation, ref= not active	1.295	4.03	0.0032	***	1.014	0.19	0.0001		0.710	-2.97	-0.0016	***
Contact parent(s) several times a year, ref= once a week or more					<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	

Less often contact with parent	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Constant	0.016	-18.48		***	0.009	-13.82		***	0.010	-12.28	***
<i>Post-estimation/goodness of fit tests</i>											
<i>N</i> (Observations)	86717										
Model wald chi ²	chi ² (129)=4707.76 ***										
Log-likelihood	-11191.40										

Note: *HO*=Home ownership; *PR* = Private renting; *PH* = Parental housing

*** denotes significance at 1%; ** at 5%; and * at 10%

^c indicates a continuous rather than discrete measure

Social interaction with neighbours is an important factor that could explain individuals' integration/acceptance in an area. Talking to neighbours more often is coded as the reference point. Those that talk to their neighbours moderately and less often/never have a higher risk of leaving their tenure for private renting by about 1.3 and 1.4 odds respectively (at 5 percent significance level). Similarly, when renting privately, they are more likely to switch to home ownership by about 1.2 and 1.4 odds respectively if they talk moderately and less often/never with their neighbours. Also, respondents have a higher risk of returning to their parents by about 1.3 odds if they talk less often with their neighbours. From parental housing, they have a higher likelihood of moving to private renting by 1.5 odds if they talked less often or never talked to their neighbours. It may also be that those who talked less often with their neighbours also have plans to leave their current housing and hence less bothered about integrating.

Being active in an organisation is another indication of integration in the area. Individuals that are active in one form of organisation and renting privately are less likely to switch to social renting (by about 0.7 odds) but equally likely to enter other tenures. If they were renting socially, they are less likely to transition to private renting and parental housing by about 0.6 and 0.4 odds respectively. They are also less likely to move to social renting (by 0.7 odds) but more likely to enter home ownership (by 1.3 odds) if they were in parental housing and active in an organisation. A suggestion of social capital influence is likely at play, whereby individuals are likely to be influenced into important decision-making due to their interactions with others in social groups.

The last social capital variable is the regularity of contact with parents. Having contact with parents once a week or more is coded as the reference point. The predictor is however omitted in Table 6.6 as we expect that several individuals who are yet to form their households are likely to be in more contact with their parents than others. Respondents in contact several times a year have a higher risk of entering private and social renting from homeownership by about 1.3 and 2 odds respectively. From the same tenure, they have a higher chance of returning to their parental housing by 1.6 odds if they were in contact with their parents less often. What this means is that being in home ownership may have resulted in individuals being stabilized in their tenure, and with fewer needs from their parents and hence, less contact with parents.

Table 6.5: Multinomial logistic regression of transitions from homeownership

<i>Established variables</i>	To PR				To SR				To PH			
	Rrr	z-value	AME	sig	rrr	z-value	AME	sig	rrr	z-value	AME	sig
Wage rate ^c	0.897	-0.96	-0.0006		1.947	2.34	0.0007	**	0.971	-0.35	-0.0002	
Wage rate squared ^c	0.985	-0.59	-0.0001		0.873	-1.71	-0.0001	*	0.985	-0.97	-0.0001	
Job loss	1.126	0.60	0.0006		0.876	-0.28	-0.0002		6.191	17.18	0.0105	***
Female, ref=male	1.122	1.24	0.0006		1.152	0.64	0.0002		0.974	-0.29	-0.0002	
Age 25-29, ref=age less than 25	2.009	5.74	0.0053	***	2.278	3.13	0.0017	***	0.994	-0.05	-0.0002	
Age 30-34	0.702	-2.70	-0.0015	**	0.322	-3.62	-0.0009	***	0.168	-13.76	-0.0095	***
Children 1-2, ref=no children	0.810	-1.99	-0.0012	**	3.136	4.37	0.0012	***	0.654	-3.98	-0.0025	***
Children 3-4	0.640	-2.07	-0.0025	**	2.911	2.72	0.0012	**	0.727	-1.45	-0.0018	
Children 5 plus	0.598	-0.51	-0.0026		0.000	0.00	-0.0154		0.684	-0.38	-0.0020	
Non-white, ref=white	0.525	-1.25	-0.0036		0.734	-0.30	-0.0003		0.919	-0.34	-0.0004	
Joined partner	1.973	3.96	0.0038	***	3.619	3.84	0.0014	***	0.338	-3.19	-0.0063	***
Split from partner	9.081	11.83	0.0121	***	12.071	7.39	0.0026	***	11.097	11.84	0.0138	***
Quintile 2 HP, ref=quintile 1	1.040	0.32	0.0002		1.361	1.14	0.0004		1.054	0.37	0.0003	
Quintile 3 HP	0.765	-1.63	-0.0013		0.521	-1.67	-0.0006	*	0.857	-0.92	-0.0009	
Quintile 4 HP	1.131	0.68	0.0008		0.647	-1.04	-0.0004		0.857	-0.84	-0.0009	
Net rent £000 ^c	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	
Social capital variables												
5-9 YPH, ref= <5	0.000	-0.01	-0.0058		0.000	-0.01	-0.0011		3.178	2.10	0.0118	**
>9 YPH	0.000	-0.01	-0.0058		0.435	-0.79	-0.0006		4.645	5.20	0.0190	***
Likes neighbourhood	1.025	0.16	0.0001		0.881	-0.42	-0.0001		1.153	0.95	0.0008	
Moderately talk to neighbours, ref=(more) often	1.338	2.49	0.0017	**	1.182	0.57	0.0002		1.304	2.33	0.0016	**
Less often or never	1.378	2.44	0.0019	**	1.195	0.56	0.0002		1.147	1.11	0.0008	
Active in any organisation, ref=not active	1.049	0.50	0.0003		0.905	-0.45	-0.0001		1.198	1.71	0.0010	*

Contact parent(s) sev. times a year, ref= once a week or more	1.299	2.06	0.0017	**	1.950	2.24	0.0008	**	0.974	-0.18	-0.0001
Less often contact with parent	0.843	-1.29	-0.0009		1.255	0.78	0.0002		1.642	3.91	0.0028 ***
Constant	0.010	-14.04		***	0.000	-9.82		***	0.003	-14.50	***
<i>Post-estimation/goodness of fit tests</i>											
<i>N</i> (Observations)	86717										
Model wald chi ²	chi ² (132)=1542.06 ***										
Log-likelihood	-6164.52										

Note: *HO*=Homeownership; *PR* = Private renting; *PH* = Parental housing

*** denotes significance at 1%; ** at 5%; and * at 10%

^c indicates a continuous rather than discrete measure

However, individuals with housing cost problems are still likely to turn to parents for financial help but may have to return to parental housing in a sudden situation. Respondents have equal relative risks of transition to other tenures when renting socially regardless of the regularity of contact with their parents. However, if they were renting privately and at the same time in less or no contact with parents, they have a lower relative risk of entering other tenures by about a unit odd. The implication is that individuals that are not very much in contact with their parents (as compared to those that are) are likely to expect less financial assistance from their parents for their housing decisions. This is because parents are often seen to have a significant influence on their children's housing decisions and outcomes.

6.4 Concluding discussions

Appreciating the influences of housing tenure transitions specific to young adults seeking independence from their parental housing provides a platform to understand their housing decisions. A 24-year period of data has been used to model influences of tenure transitions of British young adults aged 18-34 from their initial housing status. Aside from established drivers of tenure; additional variables indicating social capital drivers are included in these models. The study takes an innovative approach by tracing BHPS young adult respondents into the UKHLS. This means that continuity is ensured in the longitudinal study of housing tenure transition across the pre-GFC and post-GFC era. Amongst the four distinct tenures described in the study (i.e. home ownership, private renting, social renting and parental housing), transitions from parental housing to home ownership is the biggest transition from original tenure for the young respondents with an average age of 24 years (table 6.1). Home ownership is the biggest tenure in the UK and this is further reflected in the transition to that tenure. Young adults are increasingly staying at their parental housing to save enough and as well increase their chances of getting assisted into home ownership. The private rented sector, on the other hand, continues to have the lowest rate/number of stayers in the same tenure for all age groups represented in the study, thereby retaining its 'transition tenure' nature despite its growth.

The results show interpretations unique to the data years. Young individuals seem to be eager to leave their parental housing all the same, despite indications of a rise in the numbers and ages of stayers in parental housing. This is reflected in the association between the transition from parental housing and their wage rate. Following a move to private renting, there is also a possibility of these individuals getting stuck in private renting rather than moving to home ownership, despite an increase in their wage rates. Possibilities of transitions to home ownership are also reduced by being unemployed or in part-time work in comparison to

working full-time. In reality, it is possible to remain in private renting rather than moving back to parental housing if the individual is able to claim housing benefit for being out of work or low income and unable to meet housing costs.

For the demographic predictors, female respondents are more likely than males to move especially to home ownership but equally likely as males to make other transitions. As the individuals' age group rises, they tend to have lower possibilities of returning to their parental housing. This is because returning to parental housing also has a lot to do with age and what people may think of them as moving back at a certain age. Furthermore, older age groups have a higher tendency of an increased family size, thereby reducing their possibility of moving back. Family size does matter, and this is evident in the possibility of tenure transition with the number of children in the household. For instance, a higher number of children raises their chances of moving to the SRS but decreases their chances of switching to home ownership or back to parental housing. Aside the presence of children in the household, the presence of a partner holds an important part of the predictors, just like previous studies show. The presence of a partner in the household raises the chances of transition to other tenures except returning to parental housing. Those that split from their partners and were in home ownership increased their chances of moving to other tenures as they needed an immediate transition.

Individuals are equally likely to move out of private renting or continue in the private renting sector regardless of levels of house prices in their locality but are less likely to switch tenure with increasing levels of house prices in their area if they are renting socially. Young people living with their parents or yet to form independent households are more likely consider the PRS ahead of home ownership with increasing levels of lower quartile house prices in their areas. However, the same individuals may benefit from parental assistance as they are equally likely to enter home ownership as those faced with the lowest quintile of lower quartile house prices within their locality.

The direct social capital drivers included in the models show interesting results. For instance, an included path-dependency predictor (i.e. the number of years lived in parental home ownership (YPH)) further provides insight to the extent of socio-psychology in housing tenure decisions among young adults. The data under use shows that only a small proportion of sample respondents throughout the survey (i.e. 197 individuals) returned to parental housing from another tenure for the purpose of starting full-time study. It is interesting to discover that despite the small proportion of parental housing returnees in the survey, the possibility of

returning to parental housing in the future increases with more years spent in their parental home ownership previously. With additional years of parental home ownership, they are also more likely to remain in their parental housing than move out. Certainly, having spent different periods of time in parental home ownership appear to reveal differences in strength of home ownership and parental housing return decisions. This is also in connection with their chances of being assisted into home ownership by their home owning parents in order to continue in that tenure. It is, however, not possible to obtain a source of funds for home ownership from the BHPS as this information is not collected from the respondents.

Home owners are generally known to have the highest stability rates compared to other tenure occupants. Movement out of this tenure is usually associated with chaos or unprecedented circumstances. This may further explain why neighbourhood likeness has no substantial effect on such transition. Furthermore, individuals that do not socialise much with neighbours are more likely to switch tenure. The possibility of switching tenure may be an indication that they do not see themselves remaining in the same locality in the near future, hence not fully integrated into the area. On the other hand, being active in an organisation improves their chances of entering home ownership (especially if they were yet to form a household). These individuals are likely to be influenced by their interactions with those that matter to them.

Another social capital variable that illustrated evidence of influence from trusted individuals is the closeness of respondents to their parents. It is believed that parents have a strong influence on their children and are likely to play a big role in their important decision making. Parents are also in a better position of assisting their children into certain tenures, such as home ownership or a return to parental housing. This is evident in transitions from private renting as they have a lower chance of transitions to home ownership or return to parental housing if they are in less regular contacts with their parents.

Aside from these influences, neighbourhood characteristics may be a determining factor that can further unpack additional socio-psychological influences as suggested in chapter 4. In order to further associate some individual-level predictors (and especially the social capital drivers) with neighbourhood-level features and test their associations, a multilevel model of housing tenure choice among British young adults is employed in the next chapter.

7 Interactions between Neighbourhood effects and social capital in two-level housing tenure decision models

7.1 Introduction

Recall in chapter 4 that some literature tried to link parental housing and neighbourhoods to eventual outcomes of young people. Having tested the impact of some social capital drivers on tenure decisions in the previous chapter, it is necessary to also control for neighbourhood characteristics and test their interactions with individual-level data. This can be done using a multilevel model of housing tenure choice among British young adults. The process involves three stages of model specification and analysis. The first stage is the OLS regression/multicollinearity test. Following this is another stage involving Principal Components Analysis (PCA). The final stage is the multi-level mixed effects regression of time to different housing tenures.

7.2 Multi-collinearity test of neighbourhood socioeconomic factors

Recall that the analytical procedure is in 3 stages. The first stage is a multicollinearity test of the census area variables. It is deemed necessary to remove instances of multicollinearity in the explanatory variables at the neighbourhood level after a Variance Inflation Factor (VIF) test was carried out. The post-estimation VIF test was initially carried out after specifying a multiple-linear regression of the census dataset against the home ownership rate. The prediction of home ownership rates from the corresponding census area socioeconomic attributes is carried out using the OLS regression specification for both census years 2001 and 2011 based on the specification below:

$$z_i = \alpha_i + \kappa_i\beta + u_i \quad (17)$$

Expression (17) is a cross-sectional regression for each year, suggesting that every neighbourhood i 's home ownership rate is represented by z_i , which is dependent on the surrounding social characteristics represented by κ_i . However, from a test of multicollinearity after the specification (17) for each year, it is evident that the census area variables need to be treated further to reduced components that can describe these variables and can be independent of each other. Results from the VIF (in appendix D) indicate instances of multicollinearity following the rule-of-thumb suggested in Chatterjee and Hadi (1986). For instance, Ns-sec 12

and Ns-sec 57 have VIFs greater than 10 points at 25.28 and 19.52 respectively in 2001. In addition, the mean VIFs of the analysis are greater than 1.

7.3 Principal Components Analysis (PCA) of neighbourhood socioeconomic factors

The second stage involving PCA is carried out in order to investigate the correlation among our potential attributes and the possibility of reducing them to fewer independent principal components (Leishman, 2009). It is considered essential as it will help in reducing multicollinearity without losing much information. The Kaiser-Meyer-Olkin (KMO) test has been carried out to display a measure of sample adequacy and to ascertain whether the variables have enough in common for a PCA. This came back with more than 0.5 points, signifying that we may proceed. The full set of useful components (appendix E) shows which factor gets the highest loading while restricting the number of factors to 3 and their principal components' eigenvalues are both greater than or equal to 1 (see Appendix E). Each variable attracted factor score loadings. The varimax rotation has also been applied to make the factor loadings easier to interpret. The loadings show that they load heavily on one Principal Component (PC) than the other as shown below for PC1, PC2 and PC3:

PC1	Higher degree holders, Non-degree holders, NS-SEC12, NS-SEC57
PC2	Social rented, NS-SEC34, Unemployment rate
PC3	Private rented

The factor loadings appear to show that PC1 captures mostly percentages of academic qualification holders and socioeconomic class. PC2, on the other hand, captures proportions of social rented, proportions of individuals in levels 3-4 of NS-SEC and the unemployment rate. Lastly, PC3 only has the proportions of privately rented occupants.

7.4 Multi-level mixed effects regression of time to tenure transition

The final stage involves the regression of housing tenure transition while controlling for already established predictors of housing tenure choice (at the individual level) and as well their interactions with the area level factors. This is carried out by fitting a multi-level mixed effects

logistic regression specification⁴³. Recall in the model (9) of chapter 6, the discrete-time logit model is in the form:

$$\text{Log}_{it}(h_{it}) = \alpha Z_{it} + \beta x_{it} + u_i$$

To accommodate a two-level specification, this model can be re-written as thus:

$$\text{Log}\left(\frac{h_{ij}}{1-h_{ij}}\right) = \alpha Z_{ij} + \beta x_{ij} + u_j \tag{18}$$

$$u_j \sim N(0, \sigma_u^2)$$

To break down the mixed effects in expression (18), the fixed effects in the model suggest that to become a home owner, for instance, αZ_{ij} is the log-odds when predictor x equals 0 and u equals 0; and β is the effect on log-odds of a unit rise in x for individuals in the same neighbourhood j . For the random effects, u_j – a level 2 residual, is the effect of being in neighbourhood j , on the log-odds of the individual becoming a home owner. In the level 2 residual, σ_u^2 is the between-group variance in the log-odds of homeownership transition after controlling for x . This procedure is also repeated for the other dependent variables (i.e. transitions to private renting or parental housing)

Tables 7.1 - 7.5, therefore, display the results from the fitted multi-level mixed-effects model of housing tenure transition among British young adults aged 18-34. Their odds ratio, z-values and significance are displayed. The estimates are fixed-effects at the individual level but are random-effects at the neighbourhood (LSOA) level. The likelihood ratio test of multi-level regression in comparison to ordinary logistic regression shows high significance. Each table displays different models depending on the social capital variable of interest included in the model. A-models refer to home ownership transition; B-models are for private renting transition; while C-models are for parental housing transition. Social renting transitions have been excluded from this analysis as they are not of interest in this study and because it attracts less focus from the government in recent times.

⁴³ For fuller description of multilevel modelling of event occurrence, see section 6.2.4 of chapter 6.

7.5 Empirical results

All models contain the full specifications of established drivers and additional drivers of tenure transition against the dependent variables. Results from the full specification are displayed in model 7 while other models display results from the additional drivers and their levels of interaction with area-level effects. This is because the specific transition results at the individual level are fairly similar in all models 7-11. Results from the established drivers (e.g. in model 7) show that wage rate remains an important predictor of tenure transition. It suggests that an increase in an individuals' wage rate would likely raise the risk of making the transition to home ownership or private renting by about 1.2 odds (Models 7a and 7b). While the wage rate has no significance in moves to parental housing, it suggests that there may be other important drivers at play in such transition, such as some shock incidence prior to the move.

Working part-time or being unemployed reduces the chances of home ownership transition by about 0.5 odds when compared to working in a full-time job, but those working part-time are equally as likely as those in full-time work to make the transition to private renting. For the private renting transition, the risk of making the move increases to about 1.9 odds when unemployed. The loss of job makes an individual have the risk of transition to the parental housing by about 6.4 odds. It is obvious that being in full-time work is the best option for the individuals as part-time work or unemployment probably disallows them from entering home ownership. They can equally move to private renting if they are unemployed or in part-time as there is also the possibility of getting housing benefits to meet their housing costs.

Females are more likely than males to make the transition to home ownership by about 1.4 odds but are equally likely as males to move to private renting or parental housing in the period of the survey. Individuals aged 25-29 are equally likely to move to home ownership as those aged 18-24 but have lower risks of switching to private renting or parental housing by 0.5 and 0.6 odds respectively. We would expect older age groups to have more tenure stability than younger age groups. The oldest of the age groups (i.e. aged 30-34) have lower chances of making the transition to any of the tenures. The number of children in the household prior to transition is also an important demographic driver of the tenure decision. The reference point is having no child before the transition. When there were 1-2 children, the risks of transition to homeownership, private renting and parental housing are lowered by 0.5, 0.79 and 0.72 odds respectively. The risk lowers to 0.4 odds for the transition to home ownership if there were 3-4 children in the household but has no significant effect when children increase beyond this.

Non-whites have equal risks of making the transition to home ownership or back to parental housing but less likely to move to private renting by 0.2 odds. Tenure transitions for non-whites may further differ depending on the tenure of origin⁴⁴. The presence of spouse or shock changes in relationship status as the case may be is highly significant in any of the models where they apply. For the transitions to home ownership and private renting, the presence of spouse increases the odds by 3.2 and 1.5 odds respectively. However, joining a partner reduces the risk of transition to the parental housing by 0.4 odds while splitting from a partner for the same direction of transition increases the risks to about 7 odds.

Lower quarter lower super output area house prices are included in the model in four quintiles. Quintile 1 is the reference point and the lowest price of houses in the individual's area before the transition. If the individual is faced with the second quintile of house prices, there is an equal risk of making any of the transitions. However, a higher quintile of house prices reduces the risks of transition to home ownership by about 0.5 odds. Higher levels of house prices show an equal likelihood of transition to either private renting or parental housing. We would expect that there should be an increase in the likelihood of making the transition to private renting especially if house prices increase if the data is further expanded. The net rent (per thousand) for individuals that rented prior to transition is provided only for home ownership and parental housing transitions. This component is excluded in any of the private renting transition models because we do not expect any individual to switch across the same tenure. So, no individual previously renting privately could switch to private renting. However, an increase in net rent (per thousand) increases the odds of making the transition to either home ownership or parental housing by about 1.2 and 1 odd respectively. This suggests that those affected by increasing rents are likely to be ready to either move into home ownership (while considering other conditions that may assist their intended move) or may have less than enough to continue with renting and have to move back to parental housing temporarily.

7.5.1 Results from area level predictors

Area level drivers of transition are also represented in all the models. Living in areas with a lower proportion of (non) degree holders, Ns-sec 1-2 and Ns-sec 5-7 is the reference Principal Component (PC) 1. There is an equal risk of switching to home ownership when living in areas with medium or higher proportions of these individuals while there is a higher risk of transition to private renting by about 1.4 odds with a medium proportion of non-degree holders or Ns-

⁴⁴ See chapter 6 for non-whites' tenure transition by tenure of origin

sec 5-7. There is also an equal risk of moving back to the parental housing when there is a higher proportion of non-degree holders and Ns-sec5-7. PC2 has a lower proportion of people in socially rented tenure and unemployed as the reference point. The risk of transition to home ownership or private renting if the individual was in an area with medium or higher proportion of these elements is the same but more likely to make the transition to the parental housing by about 1.3 odds. However, for an individual in an area with a medium proportion of private renting, there is the equal possibility of switching to private renting.

Housing and education situation in the area where the individuals live may have a substantial impact on their housing tenure transitions. In the results presented, highest housing deprived areas (HDAs) and education deprived areas (EDAs) are reference points for individuals' location before the transition. There is a higher likelihood of switching to home ownership by about 1.3 odds if an individual was in either medium HDAs or lowest HDAs but less likely to switch to the parental housing by about 0.7 and 0.6 odds respectively. They are equally likely to move to private renting regardless of the level of housing deprivation of their area before the transition. They are, however, less likely to switch to private renting if they were in medium EDAs by 0.7 odds. They are equally likely to move back to parental housing regardless of whether they were in a medium or lowest EDAs but more likely to transition to home ownership by about 1.3 odds and 1.5 odds respectively. The results here tend to imply that individuals faced with lower housing deprivation levels have a higher chance of entering home ownership but lower possibilities of returning to their parents' housing. Possibilities of entering home ownership or private renting also rise with decreasing levels of education deprivation in the areas where the respondents live.

7.5.2 Results from social capital drivers and their interactions with area-level predictors

YPH is an important social capital variable that measures beyond parent-child tenure duplication but counts the number of years an individual has lived in parental home ownership before making any tenure switch (model 7). Those that have not lived in parental home ownership are coded as zero. The reference point is to have lived for 4 years or less in parental home ownership. Those that have lived in such housing for 5-9 years and 10 years or more are equally likely to make a transition to any of the housing tenures in this period of the survey. When the same variables are associated with the area level data, some results are worth reporting.

There is the equal likelihood of tenure transitions regardless of the level of YPH or if they were in any of the areas represented by the principal components. The same applies to tenure transitions when in any of the housing or education deprived areas. This suggests that tenure transition has no substantial association with the interactions between levels of YPH and area-level features tested. However, relationships between home ownership transition and the association between levels of YPH and proportion of renters in the area where individuals live can exist with further expansion of the data to allow for more years. This is because individuals living in areas with a higher proportion of private renters and having YPH of 5-9 years appear to have higher chances of entering home ownership by 4.6 odds, albeit at 10 per cent level of significance. Following that likelihood, there is a possibility that they associate with neighbours that have the intention of moving to owner occupation. This, however, is also dependent on their level of socialising with others in their area.

Respondents that indicated that they liked their neighbourhoods are equally likely to switch to private renting or return to parental housing as those that disliked their areas (model 8). Meanwhile, they are more likely to enter home ownership if they indicated that they disliked their area (by 1.9 odds). This indicates that apart from having the intention of tenure transition, integration in the area they currently live also plays a part in tenure transition. However, individuals that liked their neighbourhood showed a higher risk of switching to home ownership by about 2 odds if the area had medium or higher proportion of Ns-sec 5-7 or non-degree holders in comparison to showing likeness for the area but surrounded by lower proportion of Ns-sec 5-7 or non-degree holders. They are also more likely to switch to private renting by about the same odds even if they liked the area with a moderate proportion of Ns-sec 5-7 or non-degree holders.

Table 7.1: Multi-level mixed effects regression of interactions between YPH and area-level predictors

Model 7	A			B			C		
	To HO Odds Ratio	z	sig	To PR Odds Ratio	z	sig	To PH Odds Ratio	z	sig
Established variables									
Wage rate ^c	1.196	4.67	***	1.216	3.27	***	0.900	-2.36	**
Wage rate squared ^c	0.995	-2.03	**	0.988	-2.02	**	1.001	0.32	
Part time, ref=full-time	0.503	-5.35	***	1.134	0.85		<i>n.a.</i>	<i>n.a.</i>	
Unemployed	0.544	-5.34	***	1.971	5.29	***	<i>n.a.</i>	<i>n.a.</i>	
Job loss	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>		6.755	18.03	***
Female, ref=male	1.391	4.23	***	1.077	0.71		1.018	0.2	
Age 25-29, ref= age less than 25	1.162	1.60		0.456	-6.27	***	0.611	-4.91	***
Age 30-34	0.311	-9.99	***	0.113	-13.16	***	0.106	-16.36	***
Children 1-2, ref=no children	0.497	-6.95	***	0.785	-1.87	*	0.776	-2.51	**
Children 3-4	0.388	-4.34	***	0.929	-0.28		0.750	-1.27	
Children 5 plus	0.212	-1.37		0.622	-0.47		0.446	-0.73	
Non-white, ref=white	0.659	-0.85		0.191	-2.61	**	1.525	1.92	*
Presence of spouse	3.244	12.21	***	1.465	3.00	***	<i>n.a.</i>	<i>n.a.</i>	
Joined partner	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>		0.479	-2.95	***
Split from partner	<i>n.a.</i>	<i>n.a.</i>		<i>n.a.</i>	<i>n.a.</i>		6.364	6.55	***
Quintile 2 HP, ref=quintile 1	0.763	-1.72		1.188	0.71		0.812	-0.98	
Quintile 3 HP	0.519	-3.9	***	1.160	0.58		0.735	-1.41	
Quintile 4 HP	0.586	-2.9	***	1.472	1.36		0.826	-0.83	
Net rent £000 ^c	1.221	14.5	***	<i>n.a.</i>	<i>n.a.</i>		1.068	4.67	***
Social capital variables									
5-9 YPH, ref= <5	0.914	-0.05		1.610	0.23		0.212	-0.76	
>9 YPH	0.213	-0.72		3.448	0.92		1.358	0.26	

Area level variables										
PC1 (Degree or higher, non-degree, NS-SEC12, NS-SEC57), ref=lower-proportion										
mid-proportion	1.013	0.11		1.356	1.80	*		1.025	0.19	
higher-proportion	1.231	1.48		1.343	1.48			1.277	1.63	**
PC2 (Social rented, NS-SEC34, Unemployment rate), ref=lower-proportion										
mid-proportion	0.838	-1.60		1.075	0.48			1.250	1.75	*
higher-proportion	0.901	-0.84		0.907	-0.56			1.284	1.79	*
PC3 (Private rented), ref=lower-proportion										
mid-proportion	0.987	-0.12		1.292	1.79	*		1.188	1.42	
higher-proportion	1.018	0.14		1.225	1.18			1.229	1.52	
Moderate HDAs, ref= highest	1.338	2.63	***	0.953	-0.32			0.743	-2.64	**
Lowest HDAs	1.315	2.19	**	0.888	-0.67			0.613	-3.6	***
Moderate EDAs, ref= highest	1.269	1.99	**	0.748	-1.77	*		1.136	1.00	
Lowest EDAs	1.494	2.76	**	0.962	-0.20			1.117	0.69	
Levels of interaction between individual social capital and area-level variables										
5-9 YPH*Mid-PC1, ref= <5	0.599	-0.41		0.857	-0.1			0.818	-0.12	
YPH*Lower-PC1										
5-9 YPH*Higher-PC1	1.421	0.25		1.425	0.24			1.425	0.21	
>9 YPH*Mid-PC1	7.777	1.37		0.387	-0.94			0.637	-0.67	
>9 YPH*Higher-PC1	3.989	0.86		no entry				0.536	-0.71	
5-9 YPH*Mid-PC2, ref= <5										
YPH*Lower-PC2	2.390	0.91		1.012	0.01			3.148	0.92	
5-9 YPH*Higher-PC2										
>9 YPH*Mid-PC2	4.679	1.56		no entry				5.489	1.31	
>9 YPH*Higher-PC2	0.232	-1.13		1.578	0.43			1.857	0.90	
>9 YPH*Higher-PC2	1.097	0.08		0.471	-0.51			1.565	0.60	

5-9 YPH*Mid-PC3, ref= <5 YPH*Lower-PC3	0.564	-0.59		7.324	1.29		2.793	1.20	
5-9 YPH*Higher-PC3	4.615	1.88	*	1.513	0.2		0.471	-0.57	
>9 YPH*Mid-PC3	2.362	0.80		2.383	0.8		1.266	0.37	
>9 YPH*Higher-PC3	4.667	1.36		1.707	0.43		1.291	0.37	
5-9 YPH*Moderate HDAs, ref= <5 YPH*Highest HDAs	0.372	-1.34		0.758	-0.23		5.053	1.62	
5-9 YPH*Lowest HDAs	0.037	-2.79		no entry			5.021	1.52	
>9 YPH*Moderate HDAs	0.814	-0.25		0.612	-0.5		0.796	-0.35	
>9 YPH*Lowest HDAs	no entry			0.966	-0.03		0.641	-0.61	
5-9 YPH*Moderate EDAs, ref= <5 YPH*Highest EDAs	0.362	-0.93		0.351	-0.73		no entry		
5-9 YPH*Lowest EDAs	2.654	0.68		0.535	-0.37		0.305	-0.72	
>9 YPH*Moderate EDAs	1.076	0.07		0.544	-0.55		1.078	0.09	
>9 YPH*Lowest EDAs	1.080	0.06		0.799	-0.14		2.111	0.78	
Constant	0.030	-13.58	***	0.004	-12.54	***	0.012	-13.73	***
σ_u^2	2.208			9.161			0.734		

Post-estimation/goodness of fit tests

N (Observations)	35273			35076			35311		
N (Individuals)	5264			5262			5263		
Model wald chi2	chi ² (58) =799.85	***		chi ² (55) =333.81	***		chi ² (58) =790.75	***	
Log-likelihood	-3945.46			-3447.81			-2770.16		
LR test vs logistic regression	chi ² (01) =186.17	***		chi ² (01) =394.95	***		chi ² (01) =43.67	***	

Note: HO=Home ownership; PR = Private renting; PH = Parental housing; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing deprived areas; EDAs = Education deprived areas; LAD= Local Authority District; *** denotes significance at 1%; ** at 5%; and * at 10%; ^c indicates a continuous rather than discrete measure

Having a liking for an area certainly would not make an individual remain in private renting or parental housing when they are ready to switch to home ownership. Furthermore, individuals tend to prefer living in areas that match their level of social class. They have a higher risk of returning to parental housing if they liked their area but with a moderate or higher proportion of social renters or higher unemployment rates. Despite the liking for the neighbourhood, one would expect individuals living in areas with higher deprivation levels such as higher unemployment rates to show such signs of the possibility of returning to parental housing. Those also living in areas with a higher proportion of social renters are also likely to be influenced by their friends or trusted individuals in the area.

Communications with neighbours could define how much an individual feels integrated into the area, which therefore translates to neighbourhood-established social capital (Ziersch and Arthurson, 2007). The frequency of socialising with neighbours has been found to associate differently with housing tenure status in the literature⁴⁵. In model 9, those who talk to their neighbours less often were equally likely to move to home ownership, while those that interact moderately were equally likely to make the same and other transitions as those who interact more with their neighbours. When these terms are interacted with area-level predictors, speaking more frequently to neighbours and in areas with a lower proportion of non-degree holders and Ns-sec 5-7 is one of the reference points. Those that associated less often with their neighbours but in areas with moderate non-degree holders or Ns-sec 5-7 are less likely (by about 0.5 odds) to make the transition to home ownership. However, (when speaking more frequently to neighbours and in areas with a lower proportion of social renters and unemployment rate as the reference point) associating less often with neighbours in areas with higher levels of social renters and unemployment rate shows a lower risk of switching to home ownership or parental housing by 0.6 odds (at 10 percent confidence) and 0.5 odds respectively. Certainly, having a reasonable amount of relationship with neighbours has some influence on these important decisions, depending on the social setting of their neighbours.

⁴⁵ See section 4.5.1 of chapter 4 for review of literatures relating to this.

Table 7.2: Multi-level mixed effects regression of interactions between neighbourhood likeness and area-level predictors

Model 8	A			B			C		
	To HO			To PR			To PH		
	Odds	z	sig	Odds	z	sig	Odds	z	sig
	Ratio			Ratio			Ratio		
Social capital variables									
Likes neighbourhood	0.352	-1.99	**	0.770	-0.41		0.482	-1.28	
Levels of interaction between individual social capital and area-level variables									
Likes area*Mid-PC1, ref= likes area*Lower-PC1	1.920	1.72	*	2.409	1.90	*	1.444	0.93	
Likes area*Higher-PC1	2.350	2.12	**	1.434	0.74		1.362	0.73	
Likes area*Mid-PC2, ref= likes area*Lower-PC2	0.832	-0.55		0.897	-0.28		3.097	3.22	***
Likes area*Higher-PC2	1.142	0.37		0.713	-0.81		2.587	2.66	**
Likes area*Mid-PC3, ref= likes area*Lower-PC3	0.833	-0.61		0.598	-1.52		0.599	-1.51	
Likes area*Higher-PC3	0.883	-0.38		0.872	-0.36		0.769	-0.77	
Likes area*Moderate HDAs, ref= likes area*Highest HDAs	0.989	-0.04		0.798	-0.68		0.961	-0.13	
Likes area*Lowest HDAs	0.730	-0.88		0.954	-0.12		0.627	-1.26	
Likes area*Moderate EDAs, ref= likes area*Highest EDAs	1.226	0.59		0.663	-1.01		1.053	0.14	
Likes area*Lowest EDAs	1.996	1.43		1.170	0.28		1.502	0.81	

Constant	0.062	-5.14	**	0.005	-7.47	**	0.025	-6.21	***
			*			*			
σ_u^2	2.186			9.006			0.695		
<i>Post-estimation/goodness of fit tests</i>									
<i>N</i> (Observations)	35509			35509			35509		
<i>N</i> (Individuals)	5267			5267			5267		
Model wald chi ²	chi ² (48)=800.53	**		chi ² (47) = 39.81	**		chi ² (48) =788.34	***	
		*			*				
Log-likelihood	-3961.15			-3450.49			-2771.64		
LR test vs logistic regression	chi ² (01)=184.46	**		chi ² (01)=398.26	**		chi ² (01) =30.20	***	
		*			*				

*Note: HO=Home ownership; LAD= Local Authority District; *** denotes significance at 1%; ** at 5%; and * at 10%; ^c indicates a continuous rather than discrete measure; HO = Homeownership; PR = Private renting; PH = Parental housing; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing deprived areas; EDAs = Education deprived area*

It is more likely for an individual to switch to private renting if there was a moderate level of association with neighbours in an area with moderate levels of private renters by 2 odds. It appears that individuals have a higher likelihood of entering private renting if they lived in areas with medium or higher proportion of renters and with a moderate level of communication with their neighbours. Based on the same reference point (i.e. more contact with neighbours in areas with a lower proportion of private renters), individuals that communicated less often with neighbours in areas with moderate or higher proportion of private renters are more likely to return to the parental housing by about 2 odds. Lastly, on the association between contact with neighbours and area-level predictors, those who are in moderate contact with their neighbours and in lowest HDAs have more risk of moving to home ownership by 1.8 odds, compared to those that were in regular contacts with their neighbours in highest HDAs. This suggests that despite the less regular communication with neighbours, being in lower HDAs is sufficient to increase their chances of entering home ownership as they already benefit from having better housing situations in the area.

Another social capital predictor associated with area-level predictors is the frequency of activity in any organisation. Individuals are either active in an organisation shown in the cards presented to them or not⁴⁶. There is a possibility of being active in some type of social housing tenants' association, whereby tenants of social housing form organisations and meet at regular intervals. This could make them more active in some form of organisation than others. Table 7.1, however, shows that social renters consistently had the lowest percentage of movers compared to other housing tenures. In model 10, being active in an organisation contributes to the equal risk of transition to another tenure. Organisation-active individuals are however equally likely as the inactive to transition to private renting. For the levels of interaction, the first reference point is being active in an organisation but surrounded by lower proportions of the non-degree holder and unemployment rates. Being active in any organisation and also surrounded by moderate or higher proportion of non-degree holders or unemployment rate lowers the risk of transition to home ownership by 0.7 (at 10 percent confidence) and 0.6 odds respectively, and also by 0.5 odds if the individual was to return to parental housing.

⁴⁶ Groups shown are displayed in appendix 8

Table 7.3: Multi-level mixed effects regression of interactions between ‘frequency of association with neighbours’ and area-level predictors

Model 9	A			B			C		
	To HO			To PR			To PH		
	Odds Ratio	z	sig	Odds Ratio	z	sig	Odds Ratio	z	sig
Social capital variables									
Moderately talk to neighbours, ref=more often	0.901	-0.27		0.540	-1.13		2.754	2.19	**
Less often or never	2.283	1.95	*	0.954	-0.09		1.048	0.1	
Levels of interaction between individual social capital and area-level variables									
Moderately *Mid-PC1, ref= more often*Lower-PC1	1.177	0.65		0.816	-0.58		0.630	-1.46	
Moderately *Higher-PC1	1.072	0.23		1.168	0.38		0.975	-0.07	
Less often *Mid-PC1	0.468	-2.62	**	1.317	0.78		0.632	-1.58	
Less often *Higher-PC1	0.696	-1.13		1.633	1.25		0.749	-0.87	
Moderately *Mid-PC2, ref= more often*Lower-PC2	0.851	-0.66		1.408	1.05		0.522	-2.08	**
Moderately *Higher-PC2	1.043	0.16		0.616	-1.24		0.458	-2.37	**
Less often *Mid-PC2	0.754	-1.04		1.145	0.42		0.695	-1.26	
Less often *Higher-PC2	0.617	-1.65	*	0.974	-0.08		0.523	-2.10	**
Moderately *Mid-PC3, ref= more often*Lower-PC3	1.510	1.80	*	2.098	2.25	**	1.035	0.12	
Moderately *Higher-PC3	0.879	-0.51		1.991	2.01	**	0.882	-0.46	
Less often *Mid-PC3	1.231	0.82		1.206	0.63		2.655	3.29	***
Less often *Higher-PC3	1.117	0.42		1.001	0.00		2.249	2.84	***
Moderately *Moderate HDAs, ref= more often*Highest HDAs	1.293	1.02		1.181	0.50		0.799	-0.79	

Moderately *Lowest HDAs	1.792	2.16	**	0.914	-0.24		1.025	0.08
Less often *Moderate HDAs	1.077	0.29		1.149	0.47		1.020	0.08
Less often *Lowest HDAs	1.340	1		1.221	0.58		0.873	-0.44
Moderately *Moderate EDAs, ref= more often*Highest EDAs	1.040	0.14		1.244	0.59		1.009	0.03
Moderately *Lowest EDAs	0.886	-0.38		1.848	1.41		0.819	-0.51
Less often *Moderate EDAs	0.868	-0.48		0.931	-0.21		0.721	-1.09
Less often *Lowest EDAs	0.571	-1.62		0.726	-0.78		0.869	-0.40
Constant	0.026	-12.58	***	0.004	-11.57	***	0.010	-12.74 ***
σ_u^2	2.205			8.993			0.686	
<i>Post-estimation/goodness of fit tests</i>								
<i>N</i> (Observations)	35503			35503			35503	
<i>N</i> (Individuals)	5266			5266			5266	
Model wald chi2	chi ² (59)=810.10		***	chi ² (58)=349.93		***	chi ² (59)=791.98	***
Log-likelihood	-3947.58			-3443.28			-2770.85	
LR test vs logistic regression	chi ² (01)=186.99		***	chi ² (01)=390.98		***	chi ² (01)=29.29	***

*Note: HO=Home ownership; LAD= Local Authority District; *** denotes significance at 1%; ** at 5%; and * at 10%; ° indicates a continuous rather than discrete measure; HO = Homeownership; PR = Private renting; PH = Parental housing; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing deprived areas; EDAs = Education deprived areas*

When the reference point changes to being active and in an area with lower proportions of private renters, the risk of transition to parental housing decreases by 0.6 odds provided the individual was surrounded by the moderate proportion of private renters and active in any of the local organisations. Thus, we could say that with a higher proportion of private renters around to associate with, individuals would rather consider the tenure rather than moving back to their parental housing. Also, the risk of transition to private renting reduces by about 0.5 odds if respondents were active in an organisation and in any moderately HDAs, rather than being in the highest HDAs. They are also equally likely to return to parental housing if they were active in any organisation and in moderate or lowest EDAs.

The frequency of contact with parents is the last social capital driver tested and is found useful in tracing up some elements of social capital. This is because parental influence is dominant in young adults' decision making and may further showcase evidence of one form of assistance or another. It is expected that individuals who were in parental housing before transition would have more regular contacts than others. Hence, model 11 excludes these set of individuals, and the analysis is therefore restricted to those who were in any of home ownership, private renting or social renting before making the transition⁴⁷. Respondents' contact with parents are coded as very regular (i.e. once a week or more), several times a year, and very few/never had contact with their parents. Having the least level of contact with parents reduces the risk of transition to home ownership and parental housing by 0.2 odds and 0.3 odds respectively, in comparison to having very regular contact with parents. There is, however, an equal likelihood of transition to home ownership or parental housing if the individual contacts parent several times a year. In addition, there is the equal likelihood of transition to private renting regardless of the regularity of contact with parents.

⁴⁷ The sample sizes for the models in table 7.6 (i.e. model 11a, 11b and 11c) are shown in appendix J

Table 7.4: Multi-level mixed effects regression of interactions between organisation activeness and area-level predictors

Model 10	A			B			C		
	To HO			To PR			To PH		
	Odds Ratio	z	sig	Odds Ratio	z	sig	Odds Ratio	z	sig
Social capital variable									
Active in any organisation, ref =not active	1.852	1.93	*	0.965	-0.08		2.176	1.92	*
Levels of interaction between individual social capital and area-level variables									
Active*Mid-PC1, ref= active*Lower-PC1	0.703	-1.66	*	0.907	-0.33		0.974	-0.10	
Active*Higher-PC1	0.591	-2.17	**	0.949	-0.15		0.467	-2.45	**
Active*Mid-PC2, ref= active*Lower-PC2	1.066	0.32		0.990	-0.04		0.926	-0.28	
Active*Higher-PC2	1.032	0.14		0.849	-0.52		0.874	-0.47	
Active*Mid-PC3, ref= active*Lower-PC3	1.304	1.41		1.039	0.15		0.579	-2.10	**
Active*Higher-PC3	1.061	0.28		1.422	1.21		0.743	-1.19	
Active*Moderate HDAs, ref= active*Highest HDAs	0.809	-1.07		0.488	-2.60	**	1.070	0.28	
Active*Lowest HDAs	0.772	-1.19		0.635	-1.52		0.955	-0.16	
Active*Moderate EDAs, ref= active*Highest EDAs	0.815	-0.93		1.131	0.41		0.609	-1.79	*
Active*Lowest EDAs	0.712	-1.30		1.524	1.20		0.560	-1.79	*
Constant	0.024	-	**	0.004	-11.99	**	0.010	-13.25	***
		13.08	*			*			
σ_u^2	2.133			8.979			0.702		
Post-estimation/goodness of fit tests									

<i>N</i> (Observations)	35509		35509		35509	
<i>N</i> (Individuals)	5267		5267		5267	
Model wald chi2	chi ² (48) =808.11	**	chi ² (47) =337.19	**	chi ² (48) =785.06	***
		*		*		
Log-likelihood	-3959.94		-3451.58		-2773.91	
LR test vs logistic regression	chi ² (01) =180.28	**	chi ² (01) =393.75	**	chi ² (01) =30.86	***
		*		*		

*Note: HO=Home ownership; LAD= Local Authority District; *** denotes significance at 1%; ** at 5%; and * at 10%; ^c indicates a continuous rather than discrete measure; HO = Homeownership; PR = Private renting; PH = Parental housing; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing deprived areas; EDAs = Education deprived areas*

The frequency of contacts with parents defines the level of relationship that an individual has with the parent. It could be in the form of physical contact or telephone calls. It is therefore interesting to see that those with lesser closeness to their parents are less likely to enter home ownership or return to their parents' housing. Further association of frequency of parental contact with other individual social capital factors may be considered but these did not produce significant results within the data, except for its association with activeness in the organisation (see Appendix I). In Appendix, I, the reference point of interaction is for those with more frequent contact with their parents and inactive in any of the local organisations. It turns out that the likelihood of home ownership transition for individuals with less contact with their parents but active in a local organisation increases by 2 odds. This again shows the importance of social connections and interactions as they can contribute to housing tenure decision among the young people.

Surprisingly, having the least level of contact with parents shows a higher risk of transition to home ownership by 3.3 odds if the individual was in an area with a higher proportion of non-degree holders or Ns-sec 5-7. These are individuals who had already formed households and were renting either privately (78% of transition sample) or socially (22% of transition sample) before the transition to home ownership⁴⁸. The reference point is to have been in an area with a lower proportion of either non-degree holders or Ns-sec 5-7 but with very regular contact with parents. Individuals that switched to home ownership, in this case, may have made private renting a much more short-lived tenure. It could also be that these are young people who have acquired the right to succeed as a social housing tenant on the death of a council housing renter parent (Shelter, 2016). Also, individuals that contact their parents less often, but in areas with moderate proportions of social renters and unemployment rate are likely to return to the parental housing by 1.7 odds (at 10 percent confidence level).

⁴⁸ See appendix 7

Table 7.5: Multi-level mixed effects regression of interactions between frequency of parent contact and area-level predictors

Model 11	A			B			C		
	To HO			To PR			To PH		
	Odds Ratio	z	sig	Odds Ratio	z	sig	Odds Ratio	z	sig
Social capital variables									
Contact parent(s) several times a year, ref= 1ce a week or more	0.456	-0.99		0.903	-0.12		0.868	-0.26	
Less often contact with parent	0.163	-2.40	**	0.860	-0.18		0.306	-2.42	**
Levels of interaction between individual social capital and area-level variables									
Several times a year *Mid-PC1, ref= more often*Lower-PC1	1.750	1.09		0.983	-0.03		1.361	0.85	
Several times a year *Higher-PC1	1.074	0.12		0.568	-0.87		0.839	-0.44	
Less often *Mid-PC1	2.058	1.43		1.384	0.57		1.673	1.57	
Less often *Higher-PC1	3.343	2.27	**	1.529	0.69		1.145	0.39	
Several times a year *Mid-PC2, ref= more often* Lower-PC2	0.566	-1.19		1.441	0.74		0.938	-0.18	
Several times a year *Higher-PC2	0.520	-1.20		2.114	1.37		0.720	-0.90	
Less often *Mid-PC2	0.771	-0.57		0.761	-0.59		1.745	1.87	*
Less often *Higher-PC2	1.234	0.41		0.936	-0.13		1.635	1.53	
Several times a year *Mid-PC3, ref= more often* Lower-PC3	1.434	0.79		1.007	0.01		1.666	1.52	
Several times a year *Higher-PC3	3.141	2.40	**	0.910	-0.20		1.438	1.19	
Less often *Mid-PC3	0.809	-0.51		1.122	0.26		1.986	2.42	**
Less often *Higher-PC3	2.001	1.46		1.772	1.20		2.309	3.16	***
Several times a year *Moderate HDAs, ref= more often*Highest HDAs	1.751	1.25		3.014	2.39	**	0.791	-0.77	

Several times a year *Lowest HDAs	0.787	-0.45		1.713	1.05	1.325	0.78		
Less often *Moderate HDAs	2.002	1.69	*	1.238	0.48	0.957	-0.17		
Less often *Lowest HDAs	2.728	2.07	**	0.682	-0.78	1.152	0.45		
Several times a year *Moderate EDAs, ref= more often*Highest EDAs	1.000	0.00		0.592	-1.00	0.864	-0.41		
Several times a year *Lowest EDAs	1.698	0.87		0.511	-1.02	0.958	-0.10		
Less often *Moderate EDAs	1.354	0.64		1.273	0.50	1.147	0.46		
Less often *Lowest EDAs	1.042	0.07		0.938	-0.10	1.078	0.19		
Constant	0.004	-7.14	**	0.001	-8.16	**	0.025	-7.62	***
			*			*			
σ_u^2	11.224			7.766			0.694		
Post-estimation/goodness of fit tests									
N (Observations)	26167			26167		35509			
N (Individuals)	4151			4151		5267			
Model wald chi2	chi ² (59) =418.74	**		chi ² (58) = 190.60	**	chi ² (59) =801.44	***		
		*			*				
Log-likelihood	-1873.85			-1581.31		-2764.48			
LR test vs logistic regression	chi ² (01) =413.48	**		chi ² (01) =193.67	**	chi ² (01) =28.88	***		
		*			*				

*Note: HO=Home ownership; LAD= Local Authority District; *** denotes significance at 1%; ** at 5%; and * at 10%; ^c indicates a continuous rather than discrete measure; HO = Homeownership; PR = Private renting; PH = Parental housing; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing deprived areas; EDAs = Education deprived areas*

On the other hand, being in areas with a higher proportion of private renters and with contact with parents several times a year raises the risk of transition to respondents by 3 odds in comparison to being in contact more often and in areas with the least proportion of private renters. However, respondents having the least contact with their parents and in areas with moderate or higher proportion of private renters possess a higher risk of returning to the parental housing by about 2 odds or 2.3 odds respectively. It is expected that lesser contact with parents associates positively with a lower possibility of returning to parents. However, further interaction with areas of moderate or higher proportion of private renters reverses this possibility. This is because individuals in areas with a higher proportion of private renters are less stable and have the higher possibility of housing mobility or tenure change within a short time.

Lastly, having the reference point as having contact with parents more often and in highest HDAs, making contact with parents less often but in moderate or least HDAs raises the risk of transition to home ownership by 2 odds (at 10 percent confidence level) and 2.7 odds respectively. Under the same reference category, being in contact with parents several times a year and in moderate HDAs raises the odds of transition to private renting by 3 points. It appears that the level of HDAs in which individuals lived has a great influence on tenure transitions despite the varying regularity of contact with parents.

7.6 Concluding discussions

The chapter introduces path-dependency, social capital and neighbourhood effects as additional drivers of tenure decisions using logistic regressions of tenure transitions among British young adults. This is essential for exploring additional drivers of housing tenure transition among young adults in a changing housing market. The results obtained show that young people have increasingly made the most of their parental housing while expecting to become independent. This may not be unconnected to the gloomy economic climates in recent years and the changing attitudes towards tenure transitions, especially home ownership. The census and deprivation data applicable, in addition to the corresponding BHPS data years, have shown good results. Domains related to housing (services), education, skills and training deprivation are applicable for the deprivation index as they are more closely aligned to social influences of housing decisions. For instance, housing and services deprivation aims to capture area deprivation levels relation to three wider issues such as levels of affordability, congestion and destitution while educational deprivation levels measure a wide-ranging lack of education

and skills among young people within local areas (Smith et al., 2015). Applicable census data, on the other hand, relates to proportions of unemployed individuals or those in different housing tenures or Ns-sec in small areas of Britain.

Lastly, having the reference point as having contact more often and in highest HDAs, making contact with parents less often but in moderate or least HDAs shows some weak evidence of risk of transition to home ownership. Under the same reference category, being in contact with parents several times a year and in moderate HDAs raises the odds of transition to private renting by 3 points. Some social capital drivers that reflect the frequency of contact with parents or neighbours, activeness in local organisations/groups or perhaps their likeness for their neighbourhoods before transition were found worthy of controlling for. The analysis suggests those individuals' experiences of these social interactions tenure transition differed depending on their neighbourhood levels of housing or education deprivations or proportions of census data applied.

A similar situation can also be observed in the extent of growing up in parental home ownership and appears to have important socio-psychology dimensions, whether through parental guidance or established norms or social status. The number of years in parental private renting and in parental social renting cannot be observed due to limitations in the data used in this study. However, it seems logical that they may also be influential to tenure duplication as suggested in other studies such as in Coulter (2016). Further studies using a different dataset could expose these linkages. However, the impact of years of parental home ownership was felt in their interactions with area-level drivers even though there were no statistical differences between tenure transitions. For example, young adults tend to have a lower possibility of returning to their parental housing if they have over 5 years of parental home ownership experience even if they were in areas of a higher percentage of low-skilled workers or those at the lower end of the socioeconomic class. Such individuals may find financial help from their parents rather than returning, more so that they resided in low-income areas. This further partly reveals the influence interactions within their immediate areas have on their housing decisions and in connection with their previous housing experiences.

Although the BHPS has a record of how homes became owned, such as from outright purchase, mortgage, inheritance or other means, it does not provide information on different sources of finance for meeting housing cost or home purchase aside mortgage or savings. However, other sources of finance for house purchase such as gifts from friends or relations, inheritance,

windfalls or proceeds can be obtained from the Survey of English Housing (SEH). An exploration of the SEH in chapter 4 reveals that young people below 35 years have increasingly depended on an inherited or gifted house or money to assist with homeownership since the recent Global Financial Crisis.

It is interesting to see that although the young adults liked their neighbourhood (in which they were surrounded by non-degree holders or people that belonged in the lower end of socioeconomic class) but made transitions to home ownership. Being surrounded by unemployed individuals also influences their return to parental housing even if they liked their neighbourhood. Employment opportunities are sometimes obtained with the benefit of information from those that work in an area (Brook, 2005). It means that while individuals may feel integrated into the area they live; other circumstances or drivers, such as not being in association with people with active labour market participation may further impact on their housing decisions. Based on this assertion, their associations with neighbours appear to be an important social network linkage as obtained in the results.

There are different ideologies about housing tenure of individuals and the regularity of association with neighbours. Here, the results from young adults' transition suggest that those that became home owners initially associated with their neighbours less often. Perhaps switching to home ownership will increase their sense of belonging to the neighbourhood. However, if the same set of individuals were in areas with more non-degree holders, Ns-sec5-7, social renters or unemployment rates, they are less likely to transition to home ownership. This reveals the strength in which the class of neighbours overrides their sense of belonging to the neighbourhoods. It makes sense to see that individuals that interacted less often with their neighbours in moderate or higher private renting areas are likely to return to their parental housing. This is because they are likely to have been living in areas populated by temporary residents (as private renting is often referred to as transition tenure) with surrounding neighbours having the same mindset. Otherwise, more communications with tenants in such areas reflect the higher risks associated with their chances of entering into home ownership or private renting. If the same set of individuals were in lowest HDAs, there is a feeling of motivation for those that interacted moderately with their neighbours and, therefore, have a higher risk of transition to homeownership.

Activeness in local organisations is associated with home ownership to a large degree (e.g. in (Ziersch and Arthurson, 2007, Leviten-Reid and Matthew, 2017). In this research, activeness

in local organisation reflects the higher risk of home ownership or parental housing transition. However, individuals' presence in moderate or higher proportion of non-degree holders or unemployment rates suggests a lower risk of transition to home ownership or parental housing. Parental housing return in the scenarios is particularly interesting. Impact of social tenancy groups may suggest the unexpected result, but the indication of activeness in local organisations is lower across tenures (appendix H). However, being active in organisations in areas with more proportions of private renters lowers the risks of returning to parental housing. Likewise, activeness in local organisations in areas with lower housing or education deprivation levels appears to be a positive thing for young adults as there is a relatively lower risk of returning to parental housing. This is because social connections are important and could influence others on important decisions such as housing tenure choices similar to theirs rather than a return to parental housing.

There is no significance in the various levels of contact with parents for private renting transitions but there is significance in home ownership and parental housing transitions as expected. It is however noticeable that those in lower socioeconomic class areas who do not have regular contacts with their parents showed more likelihood of switching to home ownership. The suggestion here is that having formed a household already and in private renting is associated with reduced contact with parents (i.e. more independence) and perhaps more savings and less need to depend on the parent for financial assistance. Those with more regular contacts with parents but in areas of higher socioeconomic class may have become trapped in private renting. The level of housing and/or education deprivation has also been consistent as a strong influence with and without interactions with the individual social capital drivers.

The findings generally indicate that with the inclusion of established drivers, housing tenure transitions can also be observed along the line of interactions between individual-level drivers and related local area effects. Transitions to private renting appeared to have the least relevance of the interaction levels. Nevertheless, it is evident that recent moves to the PRS could be further associated with integration in areas consisting of more private renters or lower social class. This suggests that having individuals of similar mind sets around is also influential to eventual tenure decisions. Another discovery is that such moves to private renting can also be associated with less parental attachment. Making transitions to private renting requires little parental attachment as it does not require the level of (emotional or financial) commitments in

comparison to the other transitions in the study. More research could be carried out in the future to further explore private renting transition as it continues to grow in Britain. Housing and planning policy makers may particularly find these results useful in the understanding of some associations and/or local area mix, including some socio-psychological dimensions of housing tenure decisions among British young adults.

8 Reflections, implications of findings and recommendations

8.1 Young adults' continued housing tenure shifts

This study explored the drivers of housing tenure transitions among British young adults. The focus was mainly on socio-psychological drivers of choice and how much impact these have on their decisions, from the neighbourhood and individual perspectives. Previous studies had argued from both descriptive and econometric contexts in relation to the drivers of housing tenure decisions among young adults. However, in section 1.3 of this study, the gap in literature suggests that the focus had largely been on the economic and demographic influences of recent shifts in tenure decisions. Socio-psychological influences on the other hand had received less attention in recent times. Arguments suggesting socio-psychological influences refer to behavioural patterns and attitudes towards eventual decision-making. These have been gradually gaining attention but are yet to be fully explored in an econometric context. This study therefore fills the gap in the literature by investigating the following socio-psychological arguments from the review of literature:

- Housing tenure decisions among young adults are influenced by inheritance and/or financial expectation.
- Housing tenure decisions among young adults are influenced by parental or family motivations.
- Societal/local norms and social capital are determining factors of young adults' decisions of housing tenure.

More specifically, section 2.4 of this thesis argues that different behavioural patterns and attitudes are deeply rooted in socio-psychological theories, such as observational learning, social comparison, social identity, reasoned action or planned behaviour. The expanded arguments, therefore, gave rise to the summarised hypothesis that housing tenure decisions among young adults are influenced by (expectations of) intergenerational assistance, familial motivations and/or societal/local norms.

The aim of this study, therefore, was to test the influence of socio-psychological behaviour on housing tenure decision, particularly among the British young adults. In order to accomplish this aim, the following objectives were set out:

1. To review and synthesize the literature that deals with the UK housing system in relation to individuals and households' tenure decisions.
2. To review the societal norms among young adults over time, and to examine the conditions under which individuals' behaviour can be affected or influenced.
3. To evaluate the extent to which housing inheritance and financial assistance (expectation) can influence the competitive strength of young adults in the housing market.
4. To establish a set of socio-psychological drivers of housing tenure decisions; and to develop a conceptual framework and empirical testing approach that will be used to test the established set of hypotheses.
5. To test the socio-psychological drivers of housing tenure decisions among the UK young adults using the BHPS/USOC in models of tenure choice.
6. To analyse and draw conclusions on the strength of socio-psychological influences on young adults' housing tenure decisions in the UK.

To address these objectives, a quantitative research design was embraced, whereby several secondary data sources were employed for the needed dataset for the analysis. A review of the UK housing market has been carried out, with a major emphasis on housing tenure pattern and wealth differences in chapter 2, 3 and 4 (objective 1). In chapter 2, the emphasis is specifically on the pattern and trends of tenure since post-war era. It later shows that although home ownership has dominated as the major housing tenure in the UK for decades, private renting has been increasing over the past two decades. This shift can be attributed to the changing attitude to housing decisions and opportunities among young adults (objective 2). Different influences can be attributed to these shifts and these influences have been argued to fall under economic, demographic and political circumstances. The fourth area that has been gaining grounds is the empirical exploration of socio-psychological influence and attitudes on tenure transition.

Despite the post-GFC gradual economic recovery, some young adults appear to have remained faced with unfavourable situations that may be shaping their decisions on housing, while some others have to rely on other trusted individuals for their decisions (objectives 2 and 3). Drilling down into the set-out tasks involved a comprehensive review of existing literature surrounding

tenure decisions among young adults. This further led to a review of literature linking familial and neighbourhood socialisation to children's outcomes during adulthood in chapters 3 and 4. Home ownership is a popular eventual housing tenure in the UK and despite its popularity and political support; young people have continued to have changing opinions and chances of gaining entry into the tenure. This makes their housing pathways more complex than older age groups. Alongside the review of the literature, several simple and complex analyses were carried out to explore the suggestions formulated around the socio-psychological drivers of tenure choice among British young adults.

Chapter 5 involved the description of the methodology required and the development of the empirical testing approach of time taken to tenure transition among young adults. The data sets specifically required for testing the socio-psychological drivers (objective 4) are further discussed. This allowed for a clear framework of the procedures required to actualise the results for this study.

Chapter 6 dealt with the investigation of social capital drivers exclusively alongside other established drivers in multinomial logistic regression models, thereby establishing the testing approach developed in chapter 5. The procedure involved tracing the BHPS respondents from 1991 to 2014/2015 inclusive, as part of objective 5. Further introduction of the local area data sets and their interactions with individual-level drivers in the established testing approach was reflected on in chapter 7. Analyses of the strength of various socio-psychological drivers on young adults' housing tenure decisions (objective 6) was carried out throughout the chapters.

8.2 Reflections on the research outcomes

Housing wealth is highly correlated with social status and the norms implied by family background. This, in turn, shapes housing pathway expectations. However, it is not certain whether young adults are major benefactors of familial housing wealth, or to what extent they would expect to secure their eventual home ownership through parental wealth, particularly when they are faced with adverse housing market conditions such as high housing prices and/or high cost of capital. The results presented here suggest that intergenerational disparity tends to widen when young people are being assisted into their preferred housing tenures.

Yet, assistance may come in diverse ways. Two ways considered from the review of literature in chapters 2 to 4 are (expectations of) financial assistance and/or inheritance, with financial

assistance appearing to be the most utilised for mortgage down-payments. Although housing inheritance is yet to be proven as a major driver of home ownership in Britain, housing debts have forced young people to be highly dependent on financial resource transmission. This suggests that the current trend of increasing dependence on families for financial assistance is likely to continue, particularly for those seeking entry to owner occupation.

Having established the development of societal norms and socio-psychological drivers of tenure decisions from the review of literature earlier in the thesis, the empirical work – particularly logistic regressions - were instrumental in designing the framework for the longitudinal framework in chapters 6 and 7. It was shown that the inclusion of path-dependency and neighbourhood characteristics into a housing tenure choice model is essential for a deeper understanding of the impact of socio-psychological behaviour on housing tenure outcomes. For the path-dependency approach, it goes beyond just parent-child tenure duplication, but tracing up their point of tenure transitions by considering their duration of stay in parental home ownership. The number of years lived with home owning parents appears to lead to more willingness to attain the same tenure status as their parents, even in unfavourable economic conditions. The same individuals are more likely to remain in parental housing for longer periods before attaining independence. This does not only add more intuition to the contributions of social capital through (direct or indirect) parental guidance, set standards or developed preferences during adolescence; but further informs us of the differential impacts for every individual's length of parental home ownership.

Young people appear to be willing to gain independence as soon as possible but are hindered by either conscious or subconscious preferences for home ownership. Despite this, it appears that the strong willingness to become independent, coupled with the growth trends in the immediate environment have been contributing to the growth of the PRS. More young people are also remaining apparently stuck in the rented sector contrary to their expectation of making the tenure a stepping stone, and this reinforces the growth of the sector. Meanwhile, the analysis in this thesis has also shown that parental attachment is a significant contribution to home ownership transitions or parental housing return, and this along is a new and significant contribution to knowledge.

Further discoveries, particularly in chapter 7, indicate the importance of social connections and class on housing tenure decisions. This is brought about by interactions and relationships formed with trusted individuals in the same social group or area. Very low levels of experienced

housing deprivation enhance the chances of home ownership transition, regardless of lower levels of parental attachment. However, with a moderate housing deprivation experience and lower parental attachment, the chances of private renting transition increases. Furthermore, despite a low neighbourhood integration, being in lower social class areas tends to increase the possibilities of returning to parental housing or may as well suppress their chances of home ownership transition. The interactions between social capital drivers and area-level drivers reveal the anticipated socio-psychological influences in an empirical framework.

8.3 Implications of findings

At the time of writing this thesis, it was clear that policy makers are struggling to make sense of the options and their own political positions in relation to housing policy. For example, the Conservative party appeared to favour the building of more social housing before the 2017 general election (Harley, 2017), but then backtracked shortly after the election (Stone, 2017).

The empirical work in this thesis shows that some of the recent growth in the private rented sector can be attributed to the growing polarisation of young people between those with access to social capital and familial wealth, and those without. Another finding was that transitions to private renting can also be associated with lower levels of parental attachment. Hence, it seems likely that the private rented sector will continue its growth, at least in the medium-term amidst a slow economic recovery.

The unique findings of this study indicate that socio-psychological influences on eventual housing tenure decisions form a significant part of the housing discussion in different housing markets. In the case of the UK, degenerating neighbourhood qualities and deprivation levels will likely see an increasing imbalance in the housing market. Expectations of intergenerational assistance for mortgage down payments may also continue to play a significant role in housing tenure decisions among young adults. It is debatable whether housing inheritance will increase significantly among British young adults in the future, either as a phenomenon or in terms of the size of amounts inherited. In part, this reflects the increasing (though still modest) popularity of equity release products, but it also reflects the rising tendency of older households to attempt to retain housing investments and assets as they age. However, the impacts of this apparent move away from down-sizing on the tenure outcomes of younger people is outwith the scope of this study, though may be a fruitful area for future research.

Path-dependency in tenure (especially home ownership) may remain strong among young British households over time even if neighbourhood disparities are generally reduced. This is

because the thoughts and actions of individuals oftentimes follow those of close, experienced and trusted people. However, it is not certain whether this is the case with non-home ownership tenures in Britain. But on a smaller scale, recent research (by Coulter (2016)) suggests that young peoples' housing outcomes appear to show clear links to their different parental housing tenures in England. Individuals with a family history of renting (privately or socially) may not have the resources for assistance into home ownership in unfavourable conditions, but may be influenced by surrounding trends, social connections or close individuals into available housing tenures when faced with better living conditions and/or neighbourhoods.

8.4 Success evaluation

Appreciation of the diverse housing tenure decision making process for young people seeking independence was a starting point for this research. Most studies have tried to be objective in their analysis, with their weight more on either an econometric perspective or as descriptive as possible. Despite that, the econometric context appears not to be entirely captured, and the heavily illustrative point of view has also not been well-put together. A review of literature bringing these pieces of knowledge together, therefore, does justice to the underlying concern. Political and socio-psychological debates especially have wide ranging contentions just like economic and demographic drivers of tenure choice. Aside from the need to come up with a better structure of the drivers, their interactions have been mostly ignored in previous studies. More specifically, interactions between economic and neighbourhood drivers in a socio-psychological framework have never been done in econometric contexts of housing tenure decisions. This research, therefore, fills the gap in literature.

It is apparent that the influence of social capital cannot be ignored, especially in econometric models of tenure choice. Young people are directly or indirectly influenced by the duration of stay in parental home ownership when the move is directly from parental housing to home ownership. Even though private renting still plays a key role as transition tenure for this set of individuals/households, there appears to be an increasing trend of longer stays in parental home ownership until household formation into home ownership becomes a possibility. In such circumstances, the timing of tenure decisions is delayed. Furthermore, conscious or subconscious influences emanating from the connections with close relations, social connections, neighbourhood social class and neighbourhood housing deprivation levels all have an influence on young adults' housing decision-making process and timing. The statistically significant identification and quantification of these effects therefore constitutes a new discovery and a new contribution to knowledge.

8.5 Research limitations and the need for future research

Considering the procedures taken in this research, the possibilities of generating more insights into the subject matter are now vast. Several kinds of literature have been explored and analysed, and with different suggestions taken into consideration. The different data sets explored did so much in revealing the changing patterns of housing tenure decisions through the years. Intergenerational familial financial assistance specifically need more details on its specific contribution to home ownership transition in the models of tenure choice. There are some reports, such as the *'Thatch report'*⁴⁹ and the annual *'Bomad report'*⁵⁰ that suggest the extent of financial assistance for first-time homeownership in Britain. This would be essential for pre-GFC and post-GFC comparisons and to expand on the differences between certain housing pathways, such as between *'parental home ownership to home ownership'* and *'private renting to home ownership'*. Another area that may need more attention is the expansion of the research to other housing markets. So, what could have been done differently? Certainly, there are areas that may require further exploration if this research was to be carried out all over again. Hence, possible areas for further investigation include:

- How far can we generalise the research in the UK? The research fits well into the British housing market, but we cannot be definite about the UK. The inclusion of Northern Irish data will not only attach a slightly different market but also expand the study.
- More specific differences in the time to housing tenure transitions (incorporating the different pathways) between the pre-GFC and post-GFC periods would be interesting as a slightly different study. This will reveal the changes that may have occurred in the intergenerational disparity in British housing during these periods.
- A further extension of years of stay to accommodate parental (private or social) renters is a possibility, but perhaps with a different dataset if there is. This was not a possible inclusion in this research because of data availability.
- Likewise, the years of stay in (parental) neighbourhoods, e.g. during teenage-hood (or adolescence phase) and not just the neighbourhoods' individuals lived shortly before tenure transitions (i.e. adulthood socialisation). It is believed that individuals are more likely to develop their preference for housing during adolescence (Ben-Shahar, 2007). This tends to be a period when they are looking into the nearest future and developing a mindset of what constitutes normality or expectations within their circles. Hence,

⁴⁹ See Tatch, J. 2007. Affordability—are parents helping?

⁵⁰ Bomad, 2017 'The Bank of Mum and Dad' annual publication by Legal and General Group

exploring data that provides the length of stay in specific neighbourhoods would add additional intuition to socio-psychological drivers of tenure transitions.

- A replication of this research process in other housing markets will be interesting. Longitudinal data matching the BHPS capacity is also available for some other countries, thereby prompting the possibility of introducing this research's dimensions into their housing tenure choice models.
- Finally, in any available dataset, multinomial multi-level logistic regression can be employed. In chapter 6, multinomial logistic regression exposed 12 different paths in more specific movements in and out of tenures. This was, however, carried out at the individual level only. Adding a higher level (such as the neighbourhood level) into the model proved difficult as convergence could not be reached. It will, however, be interesting to observe interactions with area-level effects in the specified pathways.

Finally, it is obvious that the exploration of socio-psychological effects on housing tenure transitions among young adults does not end here. The research cannot contain some additional dimensions to the exploration of the influences of housing tenure choice within the socio-psychological framework. It appears that the concept is beginning to gain grounds in empirical studies. Here, a more solid approach is formed and could be proceeded with further in-depth analysis. Results from these explorations undoubtedly shed more light on debates relating to drivers of housing tenure decisions.

Appendix A: Summary table of variables under use in models 3-6

Variables	Observation	Mean	Std. Dev.	Min.	Max.
Wage rate	92617	0.71	1.46	0	66.75
Full time*	103216	0.62	0.49	0	1
Part time*	103216	0.17	0.37	0	1
Unemployed*	103216	0.23	0.42	0	1
Female*	103216	0.53	0.50	0	1
Age	103216	31.81	8.43	18	61
Number of children	103216	0.95	1.09	0	9
Non-white*	103216	0.34	0.48	0	1
Joined partner*	103216	0.03	0.18	0	1
Break partner*	103216	0.01	0.10	0	1
Parental HO years	103216	0.10	1.21	0	41
LAD house prices	103216	79283.14	41710.65	12579.87	434236
Net rent	92631	0.61	1.96	0	49.04

* denotes a discrete measure; HO = Homeownership; LAD = Local Authority District

Appendix B: Distribution of census and deprivation data across the year 2001 to 2015

Year	Census data	England IMD	Wales IMD	Scotland IMD
2001	Census 2001	IMD2004	WIMD2005	SIMD2004
2002	√	√	√	√
2003	√	√	√	√
2004	√	√	√	√
2005	√	IMD2007	√	SIMD2006
2006	√	√	WIMD2008	√
2007	√	√	√	SIMD2009
2008	√	IMD2010	√	√
2009	√	√	WIMD2011	√
2010	√	√	√	SIMD2016
2011	Census 2011	IMD2015	√	√
2012	√	√	WIMD2014	√
2013	√	√	√	√
2014	√	√	√	√
2015	√	√	√	√

√ indicates the same as above

Appendix C: Summary table of variables underuse in models 7-11

Variable	Obs (2001-2015)	Mean	Std. Dev.	Min	Max
HO transition dv	43022	0.024	0.153	0	1
PR transition dv	43022	0.019	0.138	0	1
PH transition dv	43022	0.015	0.123	0	1
Wage rate $t-1$	40296	0.848	1.653	0	66.748
Working full time $t-1$	35509	0.600	0.490	0	1
Part time work $t-1$	43022	0.179	0.383	0	1
Unemployed $t-1$	43022	0.236	0.425	0	1
Job loss	43022	0.045	0.208	0	1
Female, ref=male	43022	0.538	0.499	0	1
Aged 25-29 $t-1$, ref= aged less than 25	43022	0.210	0.407	0	1
Aged 30-34 $t-1$	43022	0.515	0.500	0	1
No children $t-1$	43022	0.476	0.499	0	1
children 1-2 $t-1$	43022	0.438	0.496	0	1
Children 3-4 $t-1$	43022	0.082	0.274	0	1
Children 5 plus $t-1$	43022	0.004	0.067	0	1
Non-white, ref=white	43022	0.562	0.496	0	1
Presence of spouse	43022	0.521	0.500	0	1
Joined partner	43022	0.036	0.185	0	1
Split from partner	43022	0.009	0.092	0	1
Quintile 2 HP $t-1$, ref=quintile 1	43022	0.141	0.348	0	1
Quintile 3 HP $t-1$	43022	0.361	0.480	0	1
Quintile 4 HP $t-1$	43022	0.450	0.497	0	1
Net rent £000 $t-1$	40301	0.802	2.192	0	43.401
5-9 YPH, ref= <5	43022	0.016	0.126	0	1
>9 YPH	43022	0.018	0.135	0	1
Likes neighbourhood $t-1$	43022	0.895	0.307	0	1
Moderately talk to neighbours $t-1$, ref=(more) often	35503	0.170	0.375	0	1
Less often or never $t-1$	35503	0.152	0.359	0	1
Active in any organisation $t-1$, ref= not active	35509	0.308	0.462	0	1
Contact parent(s) several times a year $t-1$, ref= once a week or more	35509	0.265	0.441	0	1
Less often contact with parent $t-1$	35509	0.454	0.498	0	1
PC1 $t-1$ (Degree or higher, non-degree, NS-SEC12, NS-SEC57), ref=lower-proportion mid-proportion $t-1$	43022	0.338	0.473	0	1
higher-proportion $t-1$	43022	0.333	0.471	0	1
PC2 $t-1$ (Social rented, NS-SEC34, Unemployment rate), ref=lower-proportion mid-proportion $t-1$	43022	0.334	0.472	0	1

higher-proportion $t-1$	43022	0.325	0.468	0	1
PC3 $t-1$ (Private rented), ref=lower-proportion					
mid-proportion $t-1$	43022	0.338	0.473	0	1
higher-proportion $t-1$	43022	0.330	0.470	0	1
Moderate HDAs $t-1$, ref= highest	35509	0.352	0.478	0	1
Lowest HDAs $t-1$	35509	0.319	0.466	0	1
Moderate EDAs $t-1$, ref= highest	35509	0.338	0.473	0	1
Lowest EDAs $t-1$	35509	0.332	0.471	0	1

dv = Dependent variable; $t-1$ =lagged by a year; HO = Homeownership; PR = Private renting; PH = Parental housing; LAD = Local Authority District; IMD = Index of Multiple Deprivation; HP = House prices; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing Deprived Areas; EDAs = Education Deprived Areas

Appendix D: Variance Inflation Factors (VIF) Test for neighbourhood socioeconomic variables

2001		2011	
Variable (%)	VIF	Variable (%)	VIF
NS-SEC12	25.28	NS-SEC12	26.08
NS-SEC57	19.52	NS-SEC57	19.12
Degree or higher	11.31	Degree or higher	17.11
No degree	4.67	No degree	9.51
NS-SEC34	4.46	NS-SEC34	5.19
Unemployment rate	2.85	Unemployment rate	4.14
Social rented	2.36	Social rented	2.56
Private rented	1.10	Private rented	1.20
Mean	8.94	Mean	10.63

Appendix E: Principal Components Analysis of neighbourhood level variables

Variables	Components		
	PC 1	PC 2	PC 3
Social rented	0.1207	-0.4990	-0.0208
Private rented	-0.0186	0.0350	0.9189
Degree or higher	-0.5302	-0.0038	0.1110
Less than degree	0.5232	0.3962	-0.0391
NS-SEC12	-0.4751	0.1368	-0.1282
NS-SEC34	0.0941	0.6026	0.1771
NS-SEC57	0.4264	-0.2172	-0.0337
Unemployment rate	0.1176	-0.4048	0.3041

Eigenvalues	3.8435	1.8652	0.9692
% of variance	41.82	27.62	14.04

Appendix F: Previous economic activity vs transition (as % of sample)

Previous economic status	No transition	To HO (N=1031)	To PR (N=832)	To PH (N=663)
Working full/part time	75.07	82.75	60.46	73.76
Unemployed /care/retired/other	17.71	8.28	21.75	26.24
Studying full time	7.22	8.97	17.79	0
Total	100.00	100.00	100.00	100.00

Appendix G: Previous housing tenure (excluding those previously in parental housing) vs transitions

(as % of sample)

Previous tenure	No transition	To HO (N=529)	To PR (N=341)	To PH (N=663)
Homeownership	68.99	0	52.91	46.76
Private renting	14.39	77.67	0	31.83
Social renting	16.62	22.33	47.09	21.42
Parental housing	0	0	0	0
Total	100	100	100	100

Appendix H: Organisations/Activities shown to respondents

S/No	Group Activities
1	Scout/guides
2	Pensioners organisation
3	Professional organisation
4	Women's group/institute
5	Sports club
6	Social group
7	Community group
8	Political party
9	Trade union
10	Environmental group
11	Parents' Association
12	Tenant's group

13	Religious organisation
14	Voluntary group
15	Any other group

Appendix I: Organisation activeness vs tenure

Organisation activeness	Tenure				Total
	HO	PR	SR	PH	
Inactive	7,508 64.41%	3,294 72.28%	3,153 77.99%	7,393 69.19%	21,348 69.00%
Active	4,148 35.59%	1,263 27.72%	890 22.01%	3,292 30.81%	9,593 31.00%
Total	11,656 100.00%	4,557 100.00%	4,043 100.00%	10,685 100.00%	30,941 100.00%

Appendix J: Homeownership Transition, 2001-2015 of BHPS, showing only social capital and area-level effects

	Odds Ratio	z	Sig
Social capital variables			
Contact parent(s) Several times a year, ref= 1ce a week or more	0.392	-1.16	
Less often contact with parent	0.131	-2.61	**
Active in any organisation, ref= not active	0.760	-0.99	
Levels of interaction between freq. of contact with parents and activeness in an organisation			
Contact parent(s) several times a year * active in org., ref= once a week or more *inactive	1.840	1.64	
Less often contact with parent * active in org.	2.014	2.03	**
Area level variables			
PC1 (Degree or higher, non-degree, NS-SEC12, NS-SEC57), ref=lower-proportion			
mid-proportion	0.527	-1.49	
higher-proportion	0.716	-0.73	
PC2 (Social rented, NS-SEC34, Unemployment rate), ref=lower-proportion			
mid-proportion	1.493	1.08	

higher-proportion	1.133	0.29	
PC3 (Private rented), ref=lower-proportion			
mid-proportion	1.117	0.33	
higher-proportion	0.791	-0.58	
Moderate HDA, ref= highest	0.903	-0.29	
Lowest H.DA	0.838	-0.43	
Moderate EDA, ref= highest	0.989	-0.03	
Lowest EDA	1.051	0.1	
Levels of interaction between individual social cap. and area-level variables			
Several times a year *Mid-PC1, ref= more often*Lower-PC1	1.851	1.2	
Several times a year *Higher-PC1	1.210	0.33	
Less often *Mid-PC1	2.013	1.38	
Less often *Higher-PC1	3.300	2.24	**
Several times a year *Mid-PC2, ref= more often*Lower-PC2	0.555	-1.22	
Several times a year *Higher-PC2	0.528	-1.17	
Less often *Mid-PC2	0.819	-0.44	
Less often *Higher-PC2	1.158	0.28	
Several times a year *Mid-PC3, ref= more often*Lower-PC3	1.387	0.72	
Several times a year *Higher-PC3	3.732	2.73	**
Less often *Mid-PC3	0.828	-0.45	
Less often *Higher-PC3	2.670	2.03	**
Several times a year *Moderate HDA, ref= more often*Highest H.DA	1.623	1.09	
Several times a year *Lowest HDA	0.829	-0.35	
Less often *Moderate H.DA	1.871	1.51	
Less often *Lowest HDA	2.753	2.07	**
Several times a year *Moderate EDA, ref= more often*Highest EDA	0.986	-0.03	
Several times a year *Lowest EDA	1.439	0.6	
Less often *Moderate EDA	1.370	0.66	
Less often *Lowest EDA	0.938	-0.11	
_cons	0.004	-7.04	***
σ_u^2	11.065		
Post-estimation/goodness of fit tests			
N (Observations)	26167		

<i>N</i> (Individuals)	4151	
Model wald χ^2	$\chi^2 (62) = 424.81$	***
Log-likelihood	-1862.21	

*Note: HO=Homeownership; LAD= Local Authority District; *** denotes significance at 1%; ** at 5%; and * at 10%; ^c indicates a continuous rather than discrete measure; HO = Homeownership; PR = Private renting; PH = Parental housing; YPH = Years in parental homeownership; PC = Principal component; HDAs = Housing deprived areas; EDAs = Education deprived areas*

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