My House or Our House? Pathways into Sole Homeownership in British Couples

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Abstract: Instead of assuming that both partners in couples own their homes jointly, we examine the individual ownership configurations within couples in Britain. Using longitudinal data from the British Household Panel Survey (1992-2008) and the UK Household Longitudinal Study (2010-2011) we answer two research questions: (1) How frequent is homeownership by only one partner, i.e. sole homeownership, in British couples? (2) What are the pathways into sole homeownership? We find that in 14% of couples in homeownership only one partner owns. For individuals in co-residing couples, transitions to sole homeownership are associated with more economic resources and with step children living in the home. Additionally, the entry into sole homeownership becomes less likely with longer partnership durations and for first-time married compared to never married cohabitants. No direct evidence is found that sole homeownership is more likely after marital separation. Sole ownership is positively associated with owning before current partnership formation.

Keywords: Homeownership; Within-couple wealth gap; Event history analysis; Simultaneous-equations model

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Introduction

Couples' self-occupied homes are mostly considered to be jointly owned assets of both partners. This follows from the common assumption that wealth is equally shared within households and more specifically within couples. Recently, scholars have begun to challenge this assumption of unconditionally shared wealth analogous to research showing that incomes are not necessarily equally pooled within couples (Deere & Doss, 2006; Joseph & Rowlingson, 2012; Warren, 2006). Empirical evidence shows that ownership of assets is increasingly individualized in a historical perspective (Kan & Laurie, 2014). That wealth is more and more held individually in couples may be due to, *inter alia*, delayed entry into marriage, because individuals accrue more wealth before union formation (Sierminska, Frick, & Grabka, 2010), and increasing rates of divorce in most post-industrialized societies, because individuals retain individual ownership as a safety net (Joseph & Rowlingson, 2012). At the same time, private wealth accumulation becomes more crucial with increasing life-expectancy and public pension retrenchment in many European countries (Ebbinghaus & Neugschwender, 2011). Yet the prevalence, characteristics and pathways to individual ownership of assets are not well understood.

Especially regarding homeownership gaps in the literature remain. This is an important lacuna because homeownership is the major component in most personal wealth portfolios (Megbolugbe & Linneman, 1993). Understanding individual, within-couple differences in homeownership is therefore essential to our understanding of general inequalities in wealth. While ample research has addressed inequalities in homeownership between households (e.g. Flippen, 2010; Krivo & Kaufman, 2004), differences within households and couples have not been examined. The need for an individual-level analysis is acknowledged (Ruel & Hauser, 2013), but only few studies (e.g., Grabka, Marcus, & Sierminska, 2013; Sierminska et al.,

2010) explicitly address the issue due to data limitations and these studies are restricted to examine home equity which is qualitatively different from the legal ownership status, as even small shares in home equity may provide important legal rights. No previous quantitative work that we are aware of has examined within-couple differences in legal homeownership status as yet.

The analysis addresses two central questions: (1) How frequent is sole homeownership by only one partner in British couples? (2) What are the pathways into sole homeownership? To answer these questions, nationally representative, longitudinal data from the British Household Panel Survey (BHPS) and the BHPS-sample in the UK Household Longitudinal Study (UKHLS), are combined. Both surveys overcome the paucity of data used in previous research by providing information on individual homeownership and partnership statuses for a sample of respondents observed repeatedly between 1992 and 2011. Our innovative modelling strategy exploits the longitudinal dimension of the data by using discrete-time event history models that correct for potentially selective left-censoring. We also explicitly consider state dependence in our data by using dynamic random-effects models. Due to the pioneering nature of this study, we examine within-couple disparities in sole homeownership without explicitly considering gendered determinants of inequality yet.

We are the first to show that, while joint homeownership is the norm in Britain, in 14% of couples only one partner is the legal owner. Solely owned homes offer less housing quality on average compared to jointly owned homes. Often sole owners have acquired their homes before entering the current partnership and results of an analysis of the homeownership status reveal that sole ownership is highly associated with owning before the current union is formed. This is likely after having separated from a spouse before. For individuals already co-residing with their partners, transitions to sole homeownership are positively associated with more economic resources and with step children living in the home. Partners that cohab-

it and that never married are more likely to enter sole ownership. The entry into sole homeownership becomes less likely with increasing partnership duration.

Background

Legal Context of Sole Homeownership in Britain

In Britain, cohabiting and married couples must be considered separately with regard to the legal conditions of homeownership. The legal rights of cohabitants are governed by the general property law and no particular rules are in place to protect the rights of cohabitants. However, in the case of separation, the partner with no legal title can claim a beneficial interest in the home if a partner can proof to have contributed towards the home, if there was an agreement between the partners on sharing the home, or if it is in the best interest of underage children. The beneficial interest provides the partner without legal title some temporary and limited rights to the home (Standley, 2010, pp. 73ff).

The legal protection of both partners is stronger during marriage. Irrespective of who legally owns what share of the home, both married spouses have home rights, i.e. they have the right to stay in their matrimonial home. However, there are certain benefits to being a co-owner even in married couples. Spouses of sole owners do not have the right to be consulted in case of encumbrance of the home by the solely owning spouse; they have to register their home rights to secure their legal rights; and, in case the spouse that solely owns the matrimonial home dies, the ownership is not automatically transferred to the surviving spouse. Beyond these legal aspects, sole owners may also have more power within the couple, e.g. solely owned property can be used as a resource in bargaining by threatening to leave the partner (Burgoyne & Morison, 1997). After separation, the home rights end, but by court order the title of ownership may be transferred in a legal separation independently of which partner owns what share in the home. Most couples settle the division of their property without going

to court. The matrimonial property regime in Britain also provides courts wide discretion in dividing the marital property in a divorce procedure without being bounded by any agreements that couples made before or during their marriages (Conway & Girard, 2004; Standley, 2010, pp. 153ff; Warren, 2006).

Previous Literature

In most surveys, homeownership (and ownership of most other assets except pensions) is recorded at the household level. Due to this data limitation, the analysis of within-couple differences in homeownership, as well as the determinants of and pathways into sole homeownership have received little attention as yet. Instead, the empirical literature on homeownership has mostly treated all (adult) household members as equal owners if at least one household member is the legal owner of the property. This literature has identified broadly three categories of determinants of homeownership at the household level: (1) Economic resources: Sufficient economic resources and access to credit are crucial to enter homeownership (Di Salvo & Ermisch, 1997; Ermisch & Halpin, 2004). (2) Family formation and stable unions: Transitions into homeownership are often linked to events of partnership and family formation. Married couples and families with children are more likely to be in homeownership, because they are more likely to make a long-time investment in their homes (Kulu & Steele, 2013; Mulder & Wagner, 2001). (3) Relative benefits and costs: Across countries, average homeowner rates vary widely and this has been related to national tenure structures and the relative costs of ownership compared to renting (Freeman, 1997).

Moving from the household to the individual level, Sierminska et al. (2010) use the German Socio-economic Panel (SOEP) to examine the gender gap in individual housing wealth, i.e. the value of all properties (co-) owned by individual respondents net of mortgages. The authors find married men to have about 1.14 times more housing wealth than married

women on average (1.17 among cohabitants). This gender gap for partnered individuals is smaller than the gaps for other types of assets and not statistically significant. Using the same data, a gross *within*-couple gap of EURO 13,000 in housing wealth is found which corresponds to partnered women owning only 80% of the men's average housing wealth (Grabka et al., 2013). Both studies do not examine the specific causes for within-couple differences in housing wealth, but analyze the determinants of general wealth disparities. They show that lower current incomes and less labor market experience explain a large share of the within-couple wealth gap. In addition, men are also likely to initially enter couples with more wealth than women, because men are on average older at union formation. These explanations for the gender wealth gap are also supported in research from the US, however, using household-level wealth data (Ruel & Hauser, 2013).

Using the BHPS, which is also used in the present study, Kan and Laurie (2014) examines the sole and joint ownership of savings and non-housing assets in British couples. Having sole savings is positively associated with cohabitation and being divorced. In contrast, children increase the probability of joint savings. More economic resources in the household increase the chances for sole and joint savings. If women contribute higher shares to households' labor incomes, they are less likely to have sole savings. Thus, economic independence of women does not translate in more individualized asset holdings. (Kan & Laurie, 2014) analyze sole and joint homeownership only as determinants of sole or joint holdings of other assets and they find a positive correlation. This indicates that partners in couples with sole homeownership are likely to independently manage their general finances.

These quantitative findings are corroborated by qualitative research from the UK which provides an in-depth perspective on financial arrangements and practices in couples. In a study by Joseph and Rowlingson (2012), most of the couples in first cohabitations and marriages see their owner-occupied homes as equally shared between both partners. Sharing as-

sets is perceived by many respondents as the norm and to not share assets is considered a sign of mistrust. In most of these couples, both partners contribute towards paying off the mortgages and both partners have a legal title of ownership. The situation changes in higher order cohabitations or marriages. In these unions, sole homeownership of one partner becomes more likely. In general, however, homeownership is more often jointly held by both partners than other forms of assets such as savings (Joseph & Rowlingson, 2012).

According to a different qualitative study by Burgoyne and Morison (1997), partners in higher-order unions may be more likely to solely own their homes for mainly three reasons: (1) After the experience of a break-down of an earlier union in which assets and incomes were often shared, repartnered individuals are more careful regarding sharing their property and they are more likely to ring-fence assets that they bring into the partnership. Sole ownership provides resources to leave undesired unions. (2) Most repartnered individuals have managed their finances independently before forming the current union and they see no reason for changing this arrangement. Rather than explicitly deciding for sole ownership, in many couples sole ownership is the result of not actively deciding to share assets. (3) Many repartnered individuals with children from prior unions want to ring-fence their assets to be able to pass their wealth exclusively to their biological children. Building on this existing literature, we now propose hypotheses which will be tested using representative, large-scale survey data.

Hypotheses about Pathways into Sole Homeownership

In general, joint homeownership in unions can be expected to be the norm and existing research indicates that only in a minority of couples one partner will own the home solely. We formulate hypotheses about when partners still enter sole ownership. First, we expect the *entry into sole homeownership to be more likely after having experienced a marital separa-*

tion compared to not having experienced a separation (Separation Hypothesis). In general, we expect transitions into sole homeownership to be more likely after the first marriage ends. Some of the separated will maintain their homes acquired during the previous marriages, thus, increasing their chances of becoming sole owners with new partners. In addition, partners who have experienced a break up of a prior marriage may be less confident about the permanence of their current union, because they are more aware of the risk of dissolution. They may be more likely to maintain their economic independence and manage their finance independently to be prepared for future union dissolutions.

Second, we expect *entry into sole homeownership to be more likely during cohabitations than during marriages (Cohabitation Hypothesis).* This is because marriages are associated with a higher degree of institutionalization of the union and a higher commitment of both partners than cohabitations. A reduced dissolution risk of marriages compared to cohabitations follows. Marriages are also legally binding and affect the division of property between both partners. Marriage, family formation and jointly buying a home remain important, interrelated aspects of coupledom in Britain (Ermisch & Halpin, 2004; Rowlands & Gurney, 2000). This is not as much the case with cohabitations. Following a similar argumentation, we expect that, third, *sole homeownership is less likely with longer partnership duration (Duration hypothesis).* Also, we expect that, fourth, *sole homeownership is less likely in unions with joint children (Joint Children Hypothesis).* With longer partnership duration and joint children, the commitment and trust in the union will increase which makes a joint investment in homeownership more likely and sole investment in homeownership less likely.

In contrast, we expect that, fifth, *entry to sole homeownership is more likely in unions with step children (Step Children Hypothesis).* Previous literature shows that partners in stepfamilies are likely to ring-fence their assets to protect the inheritance of their biological children (Burgoyne & Morison, 1997). Therefore, on the one hand, partners may be more likely

to enter sole ownership to be able to pass on their properties to their biological children. On the other hand, some partners may be less inclined to invest in jointly owned homes to be able to pass on the money to their biological children instead.

Homeownership is a costly investment with high financial commitment. Only individuals with sufficiently high, personal incomes or access to credit are able to make this financial commitment without support from their partners. Maintenance costs of homes can also be substantial (Fisher & Williams, 2011), so that only resourceful partners will consider sole ownership a viable option. Thus, we expect that, sixth, *entry to sole homeownership is more likely with more individual access to economic resources (Resources Hypothesis)*. In contrast, less resourceful partners can be expected to be less likely to enter sole ownership.

Lastly, we expect that, seventh, *sole ownership is more likely for partners that have been in homeownership before forming the current union than for partners previously not in homeownership (Pre-Union Hypothesis)*. Sole homeownership may be considered a remnant from a previous life phase. Prior to forming the current union, one partner has invested in homeownership while being single or while being in a previous union. The current partner has subsequently moved in, but has not bought into the home.

Data, Sample and Measurement

Data

Longitudinal data from two related surveys are used to follow respondents over time through different partnership and housing statuses. The data for the period 1992-2008 is drawn from the British Household Panel Survey (BHPS; see https://www.iser.essex.ac.uk/bhps). For the years 2010 and 2011, data from the same respondents is drawn from the UK Household Longitudinal Study (UKHLS; see https://www.understandingsociety.ac.uk/), which is the follow-up study of the BHPS incorpo-

rating the latter's sample and most of the survey content. Since 1991, the same respondents were interviewed annually (with a one year gap in 2009) as long as they did not leave the panel. In 1999 and 2001 regional booster samples were added to the survey which we also include in our analysis. We exclude the first year of the BHPS from the analysis, because in this wave the variable measuring the individual homeownership status in the household was differently coded and cannot be compared to the other years. In the BHPS und UKHLS, information on all members of respondents' households is collected, so that data on respondents and their co-residing partners are available. Attrition rates until 2008 are similar to other household panel surveys and about 51% of the originally sampled respondents were still in the sample in 2008 (Uhrig, 2008). In the transition from the BHPS to the UKHLS, the attrition rate was higher than in previous years with only about 77% of households still eligible from the BHPS sample responding to the UKHLS survey in 2010. In 2011, about 82% of households that remained in the sample were successfully interviewed (McFall, 2013, pp. 12ff). The BHPS data has been previously used to examine within-couple differences in wealth and financial management (e.g. Kan & Laurie, 2014).

Sample

We only consider partnered individuals. We select household heads in each firstly observed household and their heterosexual partners for the estimation sample.[1] Households are observed for the first time if they are added to the survey sample or if a new household is formed from previous sample members, e.g. if a child leaves the parental home. The head of household is the principal owner or renter of the accommodation. From each couple we randomly select one person for the estimation sample to which we match the information from their partners to avoid clustering within couples. We exclude respondents below the age of 18

[1] The number of homosexual couples in the BHPS is too small for analysis.

and respondents that are older than 65 years from the analysis. Latter respondents are excluded because different mechanisms than the ones covered above may cause transitions into and out of ownership at old ages, e.g. retirement migration. We further exclude respondents living with their parents or in multi-family households, as we cannot clearly identify the individual ownership status in these households (see below).

Measurement of Sole Homeownership

Individual ownership of the current home is measured as a binary status for up to two household members in the BHPS data.[2] This information is used to construct the main dependent variable: *Sole homeownership* indicates whether respondents own their homes and their partners do not own (coded 1). The reference category comprises all respondents that do not own their home as well as respondents that own jointly with their partners (coded 0). Note that this variable is only defined for couples; singles, by definition, cannot be in sole homeownership. Using this dependent variable is a substantial step forward from treating homeownership as a household-level variable. However, clearly data limitations apply: (1) Only up to two owners are recorded in the BHPS, and, thus, more complex ownership constellations may be obscured until 2008. In the UKHLS, a more detailed measure is available. (2) No information about the actual share of the home owned by respondents is available. However, the review of the legal background has shown that a binary ownership status variable is sufficient to capture the most relevant aspect of within-couple inequality in ownership: if one partner is a sole owner. (3) We are not able to speak to disparities in overall housing wealth including other property than the owner-occupied dwelling, as this information is not recorded in all waves in our data. However, ownership of the primary residence is the most important form of housing wealth for a large share of the population (Megbolugbe

[2] The question in the survey is "In whose name is this (house/flat/room) owned?" and the first two responses are recorded in the BHPS. In the UKHLS all responses are recorded.

& Linneman, 1993). (4) The homeownership status on its own does not indicate the actual housing wealth as individuals may have negative home equity. (5) Legal and self-perceived ownership of the home may differ as couples may report assets as shared while only one partner legally owns the assets (Kan & Laurie, 2014).

Explanatory Variables

To test our hypotheses, we construct a number of explanatory variables. The variable *partnership status* has been created using information of the retrospective marital history and describes partnership stages that form a sequence of stages over time: *cohabiting (never married), 1st time married (ref.), cohabiting (after marital separation), married (2nd time +)*. The *partnership duration* for the current union is recorded in years. *Common child* and *step child* are dummies that measure if at least one child in the household is of both partners or of the respondent only, respectively.

Regarding access to economic resources, we include a binary indicator of *university degree* (ref.: no university degree) to proxy permanent income. The *employment status* is measured in three categories: *not employed or part-time employed (ref.), full-time employed, or self-employed*. We include *time in employment* (in years) as a proxy for economic resources that may have been accumulated over time. The variable is constructed using complete retrospective employment histories. We include the *personal income.* The variable is measured as all monthly, personal incomes after transfers in prices of 2006. The variable is equivalised using the modified OECD-scale and log-transformed. Finally, the *respondent's income contribution* measures the share of the respondents' contributions to the incomes of the couples. To capture potential non-linear effects, we consider three categories of the relative income share: *less than 40%, 40 to 60%, and more than 60%*.

Control Variables

We control for additional variables. The variable *two or more children in household* measures if at least two children under the age of 14 live in the household. *Woman* is included as a dummy. We include further controls that are not reported in the tables. *Age group* measures respondents' age in five categories: *18-29 (ref.), 30-39, 40-49, 50-59 and 60-65 years*. *Relative age* measures the difference between respondents' ages and their partners' ages in three categories: *partner is older, partner is same age or less than six years younger (ref.), and partner is more than five years younger*. We control for the *ethnic background* of respondents. A dummy for *Southeast England* (including London) is inserted in the model to capture the tight housing market in this region. We also include dummies for *Wales, Scotland* and *Northern Ireland* (ref. Rest of England) because we include booster samples for these regions. We also add period dummies for the periods 1992-1994 (ref.), 1995-1997, 1998-2000, 2001-2003, 2004-2006, 2007-2008, and 2010-2011 (which covers the UKHLS sample).[3]

Analysis

Descriptive Results

The British housing market is dominated by homeownership and especially couples are likely to live in owned homes. In our observation period 1992-2011, in about 82% of couples at least one partner owns the couple's home. 86% of the couples in owner-occupancy own their homes jointly. In 14% of couples only one partner owns the home. This share is considerably smaller than, e.g., the share of couples in which partners solely own their savings which is the case in 59% of British couples (Kan & Laurie, 2014). Between 1992 and 2011, the share of solely owned homes varies only little between 13 to 15%. These results show

[3] The year 2009 is not covered by our data.

that collectively owned homes are the norm in the UK. Still, in a considerable share of couples only one partner owns the home.

In Table 1, the average characteristics of sole owners are contrasted with tenants and respondents that own their homes jointly with their partners (joint owners). Sole owners are more likely to cohabit after martial separation than both, tenants and joint owners. They are also less likely to be married for the first time. Compared to joint owners, sole owners are more likely to cohabit before being married for the first time and they are more likely to be re-married after marital separation. Sole owners are less likely to have a common child with their partners, but are more likely to have a biological child without their partner compared to tenants and joint owners. Similar to joint owners, sole owners have fewer young children than tenants. Overall sole owners have more economic resources than tenants and joint owners – in absolute and relative terms. However, sole owners have less labor market experience compared to joint owners which may be an age effect, because sole owners are younger on average compared to joint owners. Among sole owners, respondents are relatively older than their partners. Sole owners are mainly concentrated in the age group 30-39, with tenants being more present among the age group 18-29 and joint owners being more present in the age range 40-59. Sole and joint homeownership is more frequent in the oldest age group 60-65 compared to tenancy. Among tenants and joint owners, the share of women is higher than among sole owners.

Table 2 considers raw transition rates into sole homeownership for various subgroups of the sample that are relevant for our hypotheses. In total, we observe 527 transitions into sole homeownership which corresponds to a transition rate of about 0.7%.[4] Transitions are more likely in all partnership stages outside of the first marriage. Transitions occur more of-

[4] Note that transitions into homeownership in general are rare events. Ermisch and Halpin (2004) also use the BHPS and report a general transition rate into homeownership of 5.7% when using a sample of respondents age 16 to 24 when first observed.

ten early in partnerships than later. Within the first four years of a partnership, the transition rate is more than 2%. While for couples with a common child the frequency of transitions is lower, couples with step children are more often observed when entering sole homeownership. More economic resources measured with full-time employed or self-employed compared to not employed or part-time employed, personal income and respondents' income contribution are positively associated with the transition into sole homeownership. Labor market experience is negatively related to the entry into sole homeownership, but again this may be mainly an age effect.

The sole homeownership indicator is a coarse measure of respondents' housing situations. Therefore, we consider additional, descriptive information about solely owned homes compared to jointly owned homes. Table 3 shows that homes that are solely owned have a lower quality on average. Couples in solely owned homes report more problems with their dwellings such as a lack of adequate space or noisy neighbors. Solely owned homes are less likely to be detached and are more likely to be terraced houses or owner-occupied flats. Solely owned homes are also less likely to be in high local tax bands compared to homes owned by both partners. Local tax bands are roughly based on homes' market values. Thus, solely owned homes have a lower average value relative to jointly owned homes. Sole owners are also more likely to have problems paying for their house. These differences in housing quality may result from lower average investments of partners that own their homes alone and the higher burden of their financial commitment as they do not pool their resources with their partners. The differences should be kept in mind in drawing conclusions regarding within-couple inequalities in ownership.

Multivariate Results

To understand the pathways into sole homeownership, the outcomes of interest are transitions into sole homeownership in co-residence episodes. Entries can occur repeatedly and are only recorded in yearly intervals in our data. We use discrete-time event history analysis (EHA) as it allows an appropriate modelling of such data (Allison, 1982). Our model predicts the logit of the hazard of becoming sole owner, which is the conditional probability of observing a positive outcome of a binary event indicator Y (=1 becoming a sole owner, =0 otherwise) for each discrete time unit t of individual i, given that no event has occurred before within the co-residence episode j. The discrete time hazard is weighted by a linear duration function, and a vector of relevant time-constant and time-varying covariates described before.[5] This vector also includes indicators for the housing tenure of origin (at $t-1$) because the tenure of origin may affect the probability to become a sole homeowner. Housing tenure of origin includes three states: (1) tenant, (2) joint owner with partner, or (3) partner is sole owner. In addition, repeated co-residence episodes for some respondents allow identifying time-constant unobserved heterogeneity captured by an individual-level random term.

For the duration function, we use information on the duration of the partnership. The BHPS provides only partial information on the natural time process in our model, which would begin when a couple first co-resides in a home not solely owned by the respondent. In lieu, we use available retrospective information on the date of the start of co-residence. Although we are aware that partners moving in together and co-residence in sole owned homes are not necessarily simultaneous time processes, we are certain that the former precedes the later.

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[5] As most of the transitions occur at early stages of the partnership, a linear duration function appears to best fit the data. This is also supported by a comparison of fit measures.

As we are interested in examining transitions, we restrict our estimation sample to observations of co-residing, partnered respondents who are not (yet) the sole owners of their homes. We exclude respondents that have entered sole homeownership before they are observed for the first time in our data. These unobserved, left-censored transitions may introduce bias as transition risk estimates based on the observed data will be overestimated. Following a strategy similar to Aassve, Billari, Mazzuco, and Ongaro (2002), we treat left-censored respondents as a selective group of respondents. Therefore, the transition equation is simultaneously estimated with a selection equation in which the probability that respondents are left-censored is modelled. As the main equation, the selection equation also includes an individual-specific random term. Both random terms are extracted from a joint bivariate normal distribution, and their correlation is estimated in order to correct for selectivity. For the purpose of identification, we add an instruments, age at the start of co-residence, to the selection equation that is not included in the main equation.

Table 4 presents results from the EHA model for transitions to sole home ownership. We display only results of the model that has been simultaneously estimated with a selection equation to control for left-censoring bias. A likelihood ratio test ($\chi^2(2) = 20.80$, $p < 0.001$) indicates that the simultaneous equation model better fits the data compared to a separate equation model. The variance of the random term is significant. This is an indication for individual unobserved heterogeneity affecting outcomes in both equations. Despite that, the residual correlation across equations is statistically non-significant, indicating that left-censoring bias is not affecting our results.

We focus on coefficients relevant to test our hypotheses.[6] Concerning the coefficients for partnership status (ref. 1st time married), we find a positive and marginally significant co-

[6] Coefficients of control variables behaved as expected, and will not be further commented. The same applies to the coefficients of the selection equation, where the instrumental variable – age at the start of co-residence – is significantly, positively associated with the left-censoring outcome. Sensitivity analysis showed that the instru-

efficient for cohabiting (never married). In this partnership stage, individuals are more likely to buy homes on their own. Cohabiting after marital separation, as well as re-marriage is positively but non-significantly associated with the transition into sole ownership. This is only weak evidence for the cohabitation hypothesis and no evidence for the separation hypothesis. We find evidence substantiating the partnership duration hypothesis. The coefficient of the partnership duration function is highly significant and negative, indicating that transitions into sole homeownership occur early in co-residence episodes, as we expected. With increasing partnership duration, partners may become more committed and less likely to make sole investments.

The family status is also a relevant aspect of the transition to sole homeownership. Step children in the household are significantly, and positively associated with the entry into sole homeownership. This result supports the step children hypothesis in which individuals are expected to ring-fence their assets, so that they are not inherited to non-biological children. However, having a common child does not affect the transition rate against our expectations. We also find that with at least two young children in the home the transition risk decreases. This may be due to the fact that independently from biological parenthood commitment within couples increases with a larger number of young children present.

Regarding economic resources, we do not find a significant coefficient for personal (log) income. Yet, we find a significant effect for relative income, where higher shares contributed to the household income increase the chances of transitions to sole homeownership. Other indicators of economic resources, such as university degree, being full time employed or being self-employed, are also positively associate with the transition to sole homeownership. However, we do not find the labor market experience to have a significant effect. Over-

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ment is not significantly associated with transitions to sole home ownership. A full results table can be consulted in Appendix X (to be included).

all, this indicates that the individual economic resources are crucial for becoming a sole owner as expected in the resource hypothesis.

To test the pre-union hypothesis, in which we expect that sole ownership is more likely for partners that have been in homeownership before forming the current union than for partners previously not in homeownership, we chose a different modelling strategy. Sole homeownership as a consequence of one partner already being an owner when forming a co-residential union does not fit within our risk set. Technically, these individuals are not at risk of transition to sole homeownership, but sole homeownership is only the result of changing their partnership status to co-residence. Instead of transitions, we consider the sole homeownership status and test the effect of pre-union ownership status on the probability of sole homeownership for a partner.

Naively estimating such a model may lead to biased results because pre-union ownership can be considered an endogenous term in the model that may capture any unmeasured state dependence (i.e. being in a certain state in the prior period affects the probability of being in that state in the current period; for a discussion of state dependence in panel data models see Heckman, 1981). To handle potential state dependence, we use a dynamic random-effects non-linear model that control for initial conditions similar to Stewart (2007). We use a lagged outcome variable (i.e. homeownership status in the preceding observation; $t\text{-}1$) as a model covariate. This may capture any variation of pre-union homeownership status due to state dependence. However, a lagged outcome variable induces downward bias to all other covariates in the model. To correct for that and using the Heckman estimator solution, we simultaneously estimate the homeownership status for all co-residence periods after the initial one ($t=2,\ldots,T$), with an equation for the probability of being a sole homeowner in the first observation ($t=1$). The covariates vector and the random terms specification resemble those of the transition model described above. An indicator of residential mobility between the pre-

union and subsequent observation is used as an instrument in the second equation modelling the initial condition. A more detailed description of the modelling strategy can be found in Appendix X (to be added).

Table 5 displays the results of the dynamic random effects model for sole home-ownership status controlling for state dependence. Regarding the role of state dependence, we find that the correlation between the random terms of the main equation (i.e. status probability from the second and later years of co-residence), and the initial conditions equation (i.e. status probability in the first year of co-residence) is statistically significant and of considerable size (r=0.9). This hints at the existence of significant state dependence between the initial homeownership status in co-residence episodes, and the subsequent observations. Not shown in Table 5, controlling for state dependence, the upward bias of the lagged home ownership indicator is corrected (coefficient is reduced from 6.28 to 4.51). Similarly, the downward bias for the other coefficients in the model is reduced.

Regarding the pre-union homeownership coefficient, we find slightly different results across the main and the initial conditions equations. First, the coefficient has a negative sign in the main equation (-0.19), but is not statistically significant. Second, the coefficient has a positive sign in the initial conditions equation (0.64), and is statistically significant. These results show that pre-union homeownership is a relevant explanation for sole home ownership, mediated through a strong association between pre-union home-ownership and the initial homeownership status of co-resident couples. That is, individuals already owning a home prior to their current union are likely to become sole owners just by co-residing with a new partner. However, the effect of pre-union homeownership does not extend to later stages of partner's co-residence once we control for true state dependence. That is, individuals are likely to be sole homeowners later in the co-residence episode because they were in this status in the previous period. Other factors remain statistically significant. In line with our expecta-

tions, individuals who cohabit after marital separation, those with no common children and those with more economic resources (i.e. the self- or full-time employed and those contributing at least 40% of the household income), are more likely to be sole owners at any time after controlling for state dependence. Unexpectedly, personal income is negatively associated with sole homeownership once controlling for initial conditions.

Discussion and Conclusion

In this study, longitudinal data from the BHPS and UKHLS are analyzed. These data are unique in providing individual-level information on homeownership. This feature allows us to go beyond previous literature that examined homeownership only at the household level ignoring potential within-household and within-couple inequalities. The current analysis is, to our knowledge, the first to investigate to what extent homeownership is jointly held within couples. By taking into account that homeownership may be an individual asset not shared in couples, this analysis also substantially contributes to the emerging literature on within-couple wealth inequalities (e.g., Kan & Laurie, 2014) which will help to understand the gender gap in wealth that has mainly been examined via between-household differences until now (Ruel & Hauser, 2013).

The analysis shows that in about 14% of British couples, only one partner owns the home. Solely owned homes offer less housing quality on average compared to jointly owned homes. Sole owners report more housing problems, their houses are less often detached and are worth less, and sole owners are more likely to report problems paying for their homes. Our results point to two vital sets of determinants to understand transitions to sole homeownership in co-resident couples: (1) individuals' economic resources – also relative to their partners' resources – and (2) the family situation, mediated through partnership duration, family type and size. Within couples, economically resourceful individuals that cohabit and

never married, with step children and young children in the household, during the early phase of the partnership are most likely to enter sole ownership. Many partners become sole owners because they continue to own a home in a new union that they acquired before.

These findings corroborate previous, non-representative qualitative evidence on within-couple disparities in homeownership (Joseph & Rowlingson, 2012). Especially the role of step children in shaping within-couple inequalities in wealth have been suggested by qualitative research (Burgoyne & Morison, 1997), but has only been rigorously tested in the current study. Our findings also corresponds to recent research on non-housing wealth in Britain showing that not only economic resources but also life course stages and family composition are relevant for within-couple inequalities (Kan & Laurie, 2014). In contrast to Kan and Laurie (2014), we find that the relative resources in a couple affect entry to sole ownership. This may be due to the relative high costs of entering homeownership compared to other types of investments. In Germany, comparable results to the ones presented here have been found for the overall within-couple wealth gap (Grabka, Marcus, & Sierminska, 2013). In contrast to the latter study and other studies on overall wealth (e.g., Ruel & Hauser, 2013), we do not find a strong effect of the employment experience on sole homeownership. This may be due to the fact that homeownership is less dependent on the past income history as it is often financed out of credit for which employment prospects are more relevant.

Our study is subject to data limitations. While the BHPS and UKHLS go further than other surveys in recording the individual homeowner status of household members, in the BHPS only the first two owners in each household are recorded. As we restrict our analysis to one-couple households, we believe that this limitations has no substantial effect on our results. Nevertheless, a more detailed recording of the owner status would be desirable. Other limitations apply to our outcome variable as described in the measurement section. Another limitation is that retrospective residential histories are not available in the BHPS and

UKHLS, i.e. we do not know whether and when respondents entered sole homeownership before being observed for the first time. We correct our estimates for potential bias that may result from this lack of retrospective information by estimating a Heckman type selection model. Still, accurate retrospective information would allow for examining pathways into sole ownership with more accuracy and would enable us to situate these transitions better within the wider life courses of individuals.

A logical next step for future research is to allow gendered processes to affect the entry to sole ownership. While our research shows that women and men are equally likely to enter sole ownership controlled for other characteristics, it may be hypothesized that pathways into sole ownership are different for women and men. For example, in Britain women with children are likely to receive the matrimonial home in divorce proceedings. Entering new unions, they may be more likely to bring their homes into the union and remain sole owners to ringfence their assets for their children (Burgoyne & Morison, 1997; Joseph & Rowlingson, 2012). Further extensions may include measures of regional housing market conditions. This may be important to better model the contexts in which partners buy homes which may impact on the necessity to pool resources from both partners to buy property. Further investigations of the differences over periods may also provide insights into how changing housing market contexts affect sole ownership within couples.

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Tables

Table 1: Group characteristics by ownership status of respondents

	Tenants	Joint owners	Sole owners (ref.)
	Mean/proportion		
Partnership status			
Cohabiting (never married)	0.22	0.06***	0.20
1st time married	0.57***	0.81***	0.45
Cohabiting (after marital separation)	0.07***	0.02***	0.17
Married (2nd time +)	0.14	0.10**	0.17
Partnership duration (in years)	14.38***	20.23***	11.28
Common child	0.59***	0.62***	0.41
Step child	0.15**	0.04***	0.22
2+ children	0.10***	0.05	0.05
University degree	0.21***	0.4	0.43
Employment status			
Not employed or part-time employed	0.54***	0.36***	0.27
Full-time employed	0.40***	0.53	0.56
Self-employed	0.06***	0.11**	0.16
Labor market experience (in years)	16.05***	23.06*	21.63
Personal income (log)	6.35***	6.86***	7.09
Respondent's income contribution			
<40%	0.37***	0.36***	0.23
40% < 60%	0.25	0.23	0.25
>60%	0.39***	0.40***	0.52
Age group			
18-29	0.25***	0.08***	0.13
30-39	0.28	0.26*	0.31
40-49	0.22	0.31***	0.25
50-59	0.19*	0.27*	0.23
60-65	0.06*	0.08	0.09
Relative age			
Partner is older	0.46***	0.45***	0.30
Partner is same age or <6 yrs younger	0.42*	0.46	0.48
Partner is >5 five years younger	0.12***	0.08***	0.21
Women	0.58***	0.53*	0.47
Observations	10,827	39,700	4,300
Couples	2,482	5,039	1,218

Data: BHPS 1992-2008, UKHLS 2010-2011 (weighted)

*Notes: t-test of mean difference *** significant at 0.1% two-tailed, ** significant at 1%, * significant at 5%, † significant at 10%*

Table 2: Characteristics of transitions into sole homeownership

	Transition rate (in %)	Number of transitions
Partnership status		
Cohabiting (never married)	1.60***	130
1st time married (ref.)	0.48	257
Cohabiting (after marital separation)	1.75***	65
Married (2nd time +)	0.96**	67
Partnership duration (in years)		
<5 years (ref.)	2.21	239
5<10 years	0.82***	141
10+ years	0.42***	141
Common child		
yes	0.57***	240
no (ref.)	0.92	287
Step child		
yes	1.83***	115
no (ref.)	0.62	412
University degree		
yes	0.74	211
no (ref.)	0.70	313
Employment status		
Not employed or part-time employed (ref.)	0.59	154
Full-time employed	0.76†	309
Self-employed	0.95*	64
Labor market experience (in years)		
<10 years (ref.)	1.12	154
10<20 years	0.76*	158
20+ years	0.55***	206
Personal income (log)		
1st tertile (ref.)	0.53	121
2nd tertile	0.84**	183
3rd tertile	0.76*	206
Respondent's income contribution		
<40%	0.54†	131
40% < 60% (ref.)	0.73	125
>60%	0.86	271
Total	0.71	527

Data: BHPS 1992-2008, UKHLS 2010-2011 (weighted)

*Notes: proportion difference *** significant at 0.1% two-tailed, ** significant at 1%, * significant at 5%, † significant at 10%.*

Table 3: Housing characteristics by ownership status

	Joint owners	Sole owners (ref.)
	Proportion	
Problems with quality of home[a]	0.03***	0.07
Detached home	0.35***	0.23
At least local tax band D	0.55***	0.44
Problems paying for housing last year	0.06**	0.10

Data: BHPS 1992-2008, UKHLS 2010-2011 (weighted)

*Notes: proportion difference *** significant at 0.1% two-tailed, ** significant at 1%, * significant at 5%, † significant at 10%; [a]:Respondents report at least 4 out of 11 problems related to the quality of their home (Shortage of space, noise from neighbours, noise from street, not enough light, lack of adequate heating, condensation, leaky roof, damp walls etc., rot in windows etc., pollution, vandalism or crime).*

Table 4: Discrete time EHA model of transition to sole homeownership.

	Log. Coeff.	SE
Tenure of origin (ref. shared ownership)		
Tenant	0.71 ***	*0.13*
Alter sole owner	1.51 ***	*0.15*
Partnership status (ref. Married 1st time)		
Cohabiting (never married)	0.29†	*0.15*
Cohabiting (after marital separation)	0.20	*0.21*
Married (2nd time +)	0.12	*0.17*
Partnership duration (in years)	-0.03 ***	*0.01*
Common child with partner (ref. no common child)	-0.12	*0.12*
Step child (ref. no step child)	0.69 ***	*0.15*
2+ children (ref. less than two children in HH)	-0.48 *	*0.24*
Educational attainment (ref. no uni. degree)		
University degree	0.21 *	*0.11*
Employment status (ref. Not employed or part-time employed)		
Full-time employed	0.32 *	*0.15*
Self-employed	0.50 **	*0.19*
Labor market experience (in years)	0.01	*0.01*
Personal income (log)	-0.06	*0.04*
Respondent's income contribution (ref. 40-60%)		
<40%	-0.18	*0.16*
>60%	0.38 **	*0.12*
Sex (ref. Man)		
Woman	0.19	*0.13*
Random term variance	0.91 ***	
Random terms correlation	-0.26	
Observations	53,678	

Data: BHPS 1992-2008, UKHLS 2010-2011 (unweighted)

*Notes: Simultaneously estimated binary logistic regression model with individual level specific residuals drawn from a bivariate normal distribution; variance and unrestricted correlation of residuals have been estimated;results for selection equation not shown (available in Table X in appendix); unstandardized logit coefficients; other control variables included in model: age groups, relative partner's age, region of residence, calendar year, ethnic minority status, and a constant term;*** *significant at 0.1% two-tailed,* ** *significant at 1%,* * *significant at 5%, † significant at 10%.*

Table 5: Dynamic RE model of sole homeownership status.

	Main (status) eq.		Initial conditions eq.	
	Log. Coeff.	SE	Log. Coeff.	SE
Lagged sole homeownership status	4.51 ***	*0.10*		
Pre-union homeownership status	-0.19	*0.60*	0.64 *	*0.36*
Partnership status (ref. Married 1st time)				
Cohabiting (never married)	0.21	*0.25*	0.39	*0.35*
Cohabiting (after marital separation)	0.51 **	*0.26*	0.50	*0.39*
Married (2nd time +)	-0.10	*0.26*	0.18	*0.47*
Co-residence duration (in years)	-0.06 **	*0.02*	-0.28 ***	*0.11*
Common child with partner (ref. no common child)	-0.43 **	*0.21*	-0.58	*0.41*
Step child (ref. no step child)	0.55 ***	*0.20*	-0.06	*0.27*
2+ children (ref. less than two children in HH)	-0.45	*0.38*	-0.04	*0.63*
Educational attainment (ref. no uni. degree)				
University degree	-0.09	*0.20*	0.60 **	*0.27*
Employment status (ref. Not employed or part-time employed)				
Full-time employed	0.68 ***	*0.26*	1.09 ***	*0.38*
Self-employed	0.57 *	*0.31*	1.33 **	*0.53*
Labor market experience (in years)	0.02	*0.02*	0.09 ***	*0.03*
Personal income (log)	-0.18 **	*0.07*	0.38 ***	*0.14*
Respondent's income contribution (ref. 40-60%)				
<40%	-0.41 *	*0.23*	0.06	*0.34*
>60%	0.20	*0.17*	0.08	*0.26*
Sex (ref. Man)				
Woman	0.22	*0.23*	0.30	*0.25*
Random term Variances	2.04 ***	*0.17*	1.58 **	*0.71*
Random terms Correlation	0.92 ***	*0.26*		
Observations	7,766		1,611	

Data: BHPS 1992-2008, UKHLS 2010-2011 (unweighted)

*Notes: Simultaneously estimated binary logistic regression model with individual level specific residuals drawn from a bivariate normal distribution; variance and unrestricted correlation of residuals have been estimated; unstandardized logit coefficients; other control variables included in model: age groups, relative partner's age, region of residence, calendar year, ethnic minority status, and a constant term; Initial status equation contains a covariate for residential mobility; *** significant at 0.1% two-tailed, ** significant at 1%, * significant at 5%, † significant at 10%.*