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Many studies indicate that the share of homeowners among young Millennials born in the 1980s is consistently lower across Europe than among Generation X, primarily born in the 1970s, at the same age. The reasons for this disparity – whether it rather stems from increased economic constraints (such as income, house prices, and mortgage costs) or a shift in preferences – remain unresolved. This analysis contributes to the debate by examining differences in homeownership likelihood between birth cohorts, focusing on "Generation X" and "Millennials" using crosscountry microdata from EU-SILC 2004-2020. We pool countries and years to estimate regression models for the probability of homeownership. We control for key sociodemographic variables, including age, employment status, income, and country fixed effects. If the effect of birth cohort remains negative and statistically significant, it suggests that part of the shift away from homeownership toward renting could also be driven by altered preferences. We find that significantly lower probabilities of homeownership for young Millennials remain even after controlling for a broad range of economic constraints. In the second part of the analysis, we estimate country-specific multivariate regression models to assess the variation in cohort effects concerning country-level variables (e.g., house prices and mortgage costs). We aim to determine if the intergenerational homeownership gap correlates with these economic indicators. Results show that correlations are statistically insignificant, again suggesting that factors beyond economic constraints contribute to the homeownership gap. Finally, results from a decomposition analysis suggest that later marriage and changes in household constellations (lower share of households with children) among Millennials explain the largest part of the intergenerational gap in many countries.

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The intergenerational homeownership gap across Europe: an empirical exploration of explanations

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Abstract

Many studies indicate that the share of homeowners among young Millennials born in the 1980s is consistently lower across Europe than among Generation X, primarily born in the 1970s, at the same age. The reasons for this disparity – whether it rather stems from increased economic constraints (such as income, house prices, and mortgage costs) or a shift in preferences – remain unresolved. This analysis contributes to the debate by examining differences in homeownership likelihood between birth cohorts, focusing on 'Generation X' and 'Millennials' using cross-country microdata from EU-SILC 2004-2020. We pool countries and years to estimate regression models for the probability of homeownership. We control for key sociodemographic variables, including age, employment status, income, and country fixed effects. If the effect of birth cohort remains negative and statistically significant, it suggests that part of the shift away from homeownership toward renting could also be driven by altered preferences. We find that significantly lower probabilities of homeownership for young Millennials remain even after controlling for a broad range of economic constraints. In the second part of the analysis, we estimate country-specific multivariate regression models to assess the variation in cohort effects concerning country-level variables (e.g., house prices and mortgage costs). We aim to determine if the intergenerational homeownership gap correlates with these economic indicators. Results show that correlations are statistically insignificant, again suggesting that factors beyond economic constraints contribute to the homeownership gap. Finally, results from a decomposition analysis suggest that later marriage and changes in household constellations (lower share of households with children) among Millennials explain the largest part of the intergenerational gap in many countries.

JEL classification: D31, G51, R21

Keywords: homeownership, Europe, EU-SILC, generations, Millennials

1 Introduction

Since the Global Financial Crisis of 2008 we see a decline in home ownership rates in many European countries (Cribb, Hood, and Hoyle, 2018), and in the U.S. (Goodman and Mayer, 2018). Decline is not, of course, uniform. Not only does the rate of decline vary (Figure 1). Whats clear across all countries, however, is that the decline is sharpest amongst younger owners, broadly the generation that has come to be defined as the 'Millennials' (Figure 2, Dubois and Nivakoski (2023)). Whereas 'Baby Boomers' and 'Generation X' could expect to become owners in their 20s or 30s, the transition to ownership for Millennials occurs later, if at all (Paz-Pardo, 2024).

At first sight, this is perhaps unsurprising. Reaching early adulthood just before or after the 2008 crisis, aspiring owners faced a harsh economic climate, with a combination of increased labor market precarity and tighter mortgage restrictions. The OECD real price index shows a Euro area in-crease from 104 points in 2005, to 126 in 2022, with an increase from 100 to 133.7 across the OECD[1]

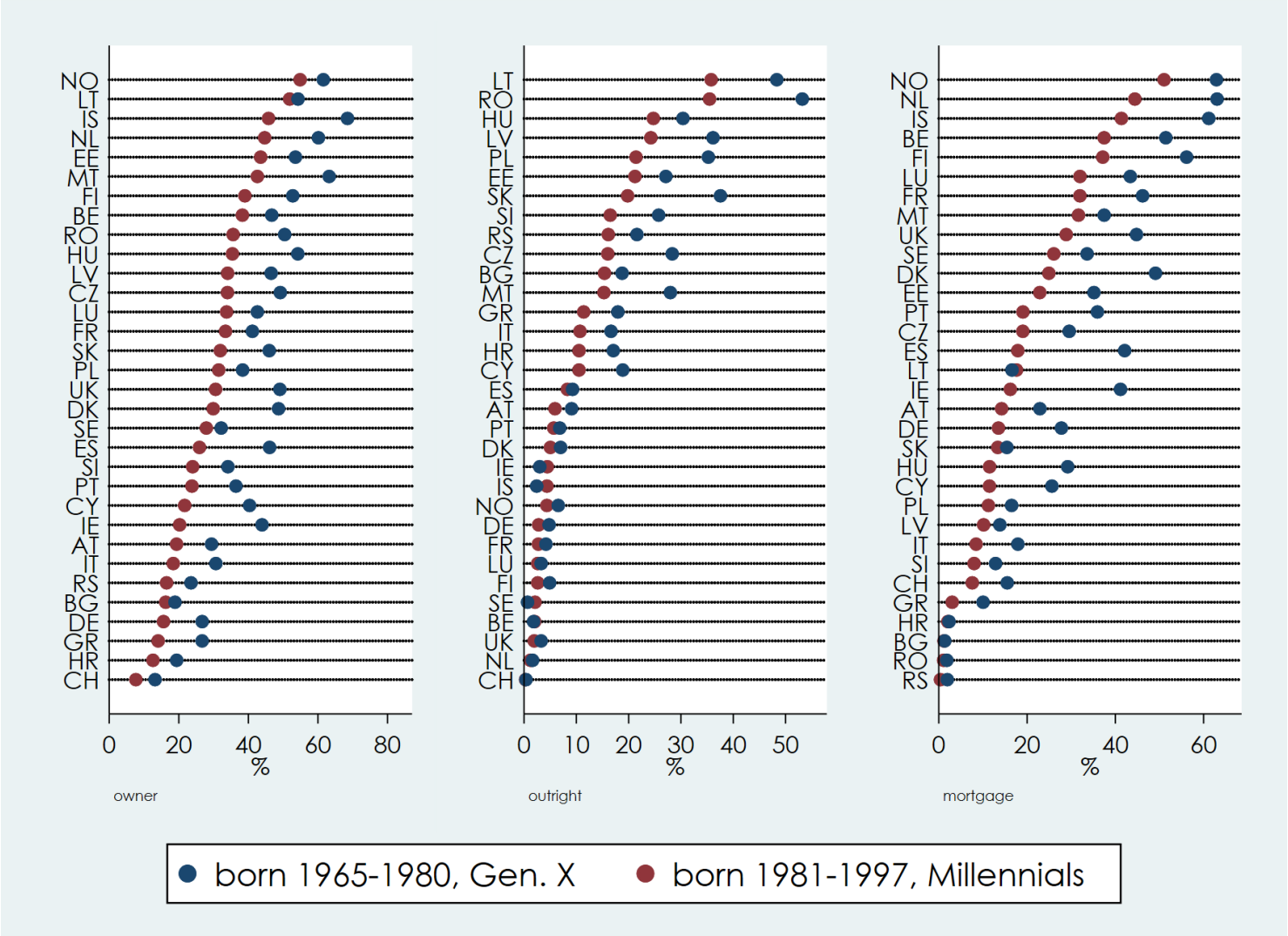
Yet the data suggests the decline predated the Global Financial Crisis. Millennials were already less likely to own, and more likely to pursue alternative housing solutions, possibly out of choice rather than necessity. Perhaps, it has been suggested, Millennials are less materialistic, motivated by "experiences not possessions". Savings for a housing deposit may be spent on travel or education; bikes may be rented rather than bought, music and films 'streamed' rather than owned. In the same spirit, housing is rented and consumed rather than owned, with generation rent staying longer in the parental home, leaving only to boomerang back later (Arundel and Lennartz, 2017; Ronald et al., 2018; Arundel and Ronald, 2016; Beer et al., 2011). The underlying theme of these tropes is the suggestion that Millennials are, compared to previous generations, more likely to *choose* not to own.

[1]Source: Calculations based on OECD Housing prices (indicator), Table HM1.2.2, https://dx.doi.org/10.1787/63008438-en (accessed February 2024)

Figure 1: Changing share of homeowners in Europe

Notes: Own caluclations based on UDB SILC. %-share of homeownership (vs. rent) across all age groups, using sample weights. Years covered vary by country (Table A2).

Figure 2: Homeownership of Millennials vs. GenX (age 25-34)



Notes: Own calculations based on UDB SILC. Pooled cross-sections 2004-2020 (2010-2020 for outright and mortgage homeownership), using sample weights.

Our aim in this paper is to unpack and empirically test this hypothesis using annual waves of the European Survey of Income and Living Conditions since 2004. Although there are a number of single-country studies, mainly focusing on the UK and the US, there are far fewer rigorous cross-country analyses (see section 2). Moreover, given the heterogeneity of housing policy traditions and the diversity of labor, housing and credit markets, the external validity of single-country studies can be questioned. We therefore offer an analysis of 28 European countries, exploiting variation between individuals and countries. If, after controlling for a wide range of demographic, employment and income variables a homeownership gap persists between Generation X and other birth cohorts, and if the variation in generational homeownership gaps across countries cannot be fully explained by country differences in house prices, mortgage costs and access to credit this would support the hypothesis that the lower share of homeowners among young Millennials compared to young Generation X (while at the same age) is also due to a shift in preferences.

2 Related Literature

The literature sets out several explanations for the homeownership gap across generations that can be divided into two broad groups: the first that Millennials preferences are different to preceding generations, the second that their preferences are the same but there are more constraints on individual opportunities.

The first group – we label it as "culture & preferences" – cover those that argue that, across all areas, Millennials have developed values and life-goals that differ markedly from those of preceding generations, and can be summarised in the phrase "experiences not possessions". This describes a general tendency for Millennials not to aspire to possessions as a way of achieving greater happiness or well-being, hence they: delay learning to drive and buying a car, instead using uber and other taxi services; rent rather than own bikes; and purchase music streaming services rather than CD's and vinyl records. In terms of housing it describes the increase in renting (hence "generation rent"), in living for more years in the parental home even if they have also spent some time living independently (hence the terms "boomerang" kids), and even the increase in transitory or nomadic living in search of interesting places to reside, temporarily (the rise of "digital nomads" and "van lifers"). Insofar as housing is concerned, then, Millennials could have responded to their environment to develop strategies that, in comparison with preceding generations, are less oriented toward an aspiration for owning a home (Fuster, Arundel, and Susino, 2019). Only very few and mostly regional studies on generational differences in housing aspirations exist. This literature suggests that housing preference are not significantly different between younger and older generations (Mckee et al., 2017; Preece et al., 2020; Napiórkowska-Baryła, Świdyńska, and Witkowska-Dąbrowska, 2024). However, there is a lack of comparative analyses and for many countries there is no evidence at all. Furthermore, first-time homeownership also coincides with partnership formation or the arrival

of children (Bayrakdar et al., 2019; Xu et al., 2015; Mulder and Wagner, 2001). Against the background that Millennials have a greater probability of singlehood and become parents at a later age than previous generations (cite source) this could also be part of the explanation for declining homeownership rates among Millennials (Drew, 2015).

Constraints – the second group – have several dimensions. The first is the (presumably more unaffordable) cost of homeownership and housing in general. The cost of homeownership can come in different ways and negatively impact generational differences in homeownership rates. Several studies have shown that an increase in down payment requirements and generally more stringent lending criteria negatively impacts millennial homeownership (Chiuri and Jappelli, 2003; Simons, 2014; Dewilde, 2020). There is also evidence that student loan debt is negatively associated with homeownership later in life (Mezza et al., 2020; Gayardon, Callender, and Desjardins, 2022). Interest rates, however, seem to play little direct role in affecting homeownership rates in the long run (Painter and Redfearn, 2002). Moreover, also rent levels matter: more income spent on rent indicates that households have less remaining income to save for a down payment (Choi et al., 2018). Rappaport (2017) brings in housing supply to the discussion of costs. Analyzing vacancy rates for rental units and the ratio of construction starts to U.S. households for the mid-2010s, the author states that home construction has not kept pace with growing demand. Another explanation refers to less favorable employment and income opportunities for Millennials. The evidence here is mixed. The work of Lersch and Dewilde (2015), Arundel and Doling (2017) and Paz-Pardo (2024) supports this argument. Paz-Pardo (2024) shows, that at age 30, changes in earnings explain 87% percent of the homeownership gap of the 1980s generation with respect to the 1940s. In contrast, Lennartz, Arundel, and Ronald (2016) and Dewilde (2020) conclude that mortgage and housing market conditions are more important explanatory factors. There is also some evidence that access to homeownership has become more dependent on income and parental wealth (transfers) (Bayrakdar et al., 2019; Blickle and Brown, 2019).

While Paz-Pardo (2024) significantly contributes the discussion in Europe with a first attempt to quantify the relative importance of the different explanatory factors, it is still not fully clear from the existing literature what are the more and less relevant factors in explaining the homeownership gap between generations across European countries. Moreover, most of the existing literature is based on single-country studies whereas the number of comparative cross-country analyses is much smaller. There is also an imbalance between the countries covered. Many studies focus on the US or the UK, while other countries have been studied less or not at all. However, given the heterogeneity of housing policy traditions and the diversity of labor, housing and credit markets, the external validity of single-country studies can be questioned. What is lacking are comprehensive cross-country analyses that can also exploit variation in macro variables to test the effect of independent variables on the GenX-Millennial homeownership gap. The closest related papers in this sense are listed in Table 1.

Table 1: Closest related papers

study	data	unit of observation	owner definition	comment
Lersch and Dewilde (2015)	EU-SILC panel data, 22 European countries , 2007-2011	individuals, focus on entry into first-time homeownership	only respondents who did not live with their parents	SILC only follows for 4 consecutive years, data is left-censored
Lennartz, Arundel, and Ronald (2016)	EU-SILC, 15 European countries, 2005-2012, pooled cross-sections	individuals	only respondents who did not live with their parents, binary: homeowner (including outright owners and mortgage holders) or renter (including market and submarket rent).	–
Dewilde (2020)	EU-SILC, 29 European countries, 2005-2018, pooled cross-sections	individuals, young adults aged 25-34 who are no longer in education	Independent homeownership/renting is distinguished from co-residence with (in-law) parents	–
Vangeel, Defau, and De Moor (2023)	SILC/ECHP, 12 European countries, 1998-2018, pooled cross-sections, random intercept models	households	individual-level variables refer to the person responsible for the accommodation.	They analze whether mortgage interest deductions actually facilitate the purchase of residential property by young adults
Flynn (2020)	LIS data, 2010	20 high-income OECD countries	n.a.	Analysis if more accessible and liquid mortgage markets promote homeownership among young people

Notes: Own compilation. 'N.a.' not applicable.

We add to the existing literature in several dimensions. First, we do a multi-country analysis and extend the observation period until 2020. Moreover, we systematically differentiate our analysis between outright owners and mortgage owners. There is a large variation in the share of these ownership types in Europe (Figure A2). Moreover, previous research has shown that this difference matters for wellbeing, employment and other domains (Baert, Heylen, and Isebaert, 2014; Park, Park, and Kim, 2022; Cairney and Boyle, 2004; Angel and Gregory, 2023). Furthermore, this approach provides a more nuanced picture for our research questions, as mortgage markets and mortgage finance are particularly relevant for young owners. We also examine in more detail whether there is empirical support for the explanatory power of specific economic constraints often discussed in the literature as explanations for the homeownership gap (e.g. income constraints, rent burden as a proxy for lack of savings). In addition, we quantify the relative importance of sociodemographic/socioeconomic variables for the homeownership gap through a decomposition analysis, which, has yet only been done by Paz-Pardo (2024), but with different data and methodology. This part of the analysis allows to estimate how much of the gap is due to observed variables and what remains unexplained (and is thus potentially due to a shift in preferences).

3 Data

In order to answer our research question, we need pooled cross-sectional data about ownership over a large number of calendar years and countries. It is also important not to confuse age with birth cohort. Obviously, Millennials are younger on average and this could explain everything. Therefore, it is important to keep age or age group constant in intergenerational comparisons. We pool cross-sectional and panel survey data from the European Survey of Income and Living Conditions (EU-SILC UDB , annually since 2004)[2]. Eurostat coordinates the SILC data collection process and together with experts from national statistical offices has been developing methodological guidelines since its launch. The reference population in SILC includes all private households and their current members residing in the territory of the countries at the time of data collection. To ensure comparability of data and variables, SILC has opted for an ex-ante output harmonization strategy: survey design and methods are flexible as long as the output requirements are met. EU-SILC covers a wide range of sociodemographic variables at individual and household level and offers a sufficiently large sample size for our analysis

[2]This paper is based on data from Eurostat, UDB version EU-SILC release 1 in 2024 (https://doi.org/10.2907/EUSILC2004-2023). The responsibility for all conclusions drawn from the data lies entirely with the author(s). Full details on EU-SILC are available from Eurostat (2018) and the Eurostat website: https://ec.europa.eu/eurostat/web/income-and-living-conditions/methodology, https://ec.europa.eu/eurostat/web/income-and-living-conditions/quality, https://ec.europa.eu/eurostat/web/income-and-living-conditions/legislation; August 7, 2024.

(Tables A1, A2). In addition to information on tenure status, it also provides several characteristics of the dwelling (mortgage cost, rent, cost of utilities, quality, size and type) and its neighbourhood.

4 Methods

We estimate different type of regression models to quantify differences in the likelihood of (ouright/mortgage) homeownership between birth cohorts with a particular focus on "Generation X" (defined as birth cohorts from 1965-1980) and "Millennials" (born 1981-1997) when both were in the same age group (25-34 years old).[3] Our approach is to control for important sociodemographic variables (particularly age), employment status, income as well as country fixed effects (e.g. time-constant cultural differences). A full list of control variables used in the regression models is provided in Table A6. If the effect of the birth cohort variables remains statistically significant, this leaves room for the argument that preferences matter as well. Table A6 displays summary statistics for all control variables included in our baseline specification. Moreover, country and year fixed effects are added. Further variables are used in some model specifications and to check robustness of the main results (Table A6).

In the first part of the analysis, the unit of observation is the individual. Our primary interest is in the cohort effect for Millennials compared to Generation X holding constant age (age group) and whether the cohort coefficient has a negative sign and is statistically significant. We pool all countries and years to estimate separate OLS linear probability regression models for the probability of homeownership, outright ownership and mortgage ownership. Different model specifications are used to test specific explanations from the literature and to assess the robustness of our results.

In the second part of the analysis (section 5.3), we estimate separate country-specific multivariate regression models and attempt to explain the between-country variation in the slopes of the cohort effect with macro variables measured at the country level. We select variables discussed in the literature that capture economic constraints to homeownership at the national level, measured as mean differences between generations when they were in the same age group. The strategy is to check whether the size of the intergenerational homeownership gap between countries is correlated with these variables.[4]

The housing tenure variable in SILC contains four (2004-2009) and from 2010 onwards five main categories: owner (outright or paying mortgage), tenant or subtenant paying rent at prevailing or market rate, accommodation rented at a reduced rate (lower price

[3] Table A4 and A5 display the % share of generations in age group 25-34 by year and the % share of age by generation within age group 25-34.

[4] As the number of observations (= countries) is rather small, less formal descriptive methods (correlations and graphical methods) are used to describe cross-country differences for homeownership gaps (Bowers and Drake, 2005).

than the market price), accommodation that is provided rent free (i.e. no rent is to be paid such as when the accommodation comes with the job, or is provided rent-free from a private source).[5] First we construct three different binary dependent variables at the household level: 1) (from 2004 onwards) owner vs. not owner (market rent, reduced rent, rent-free), 2) (from 2010 onwards) outright owner vs not an outright owner (mortgage owner, market rent, reduced rent, rent-free), 3) (from 2010 onwards) mortgage owner vs. not mortgage owner (outright owner, market rent, reduced rent, rent-free).

As housing tenure is measured at the household level in SILC but our analysis is on the individual level another crucial aspect is which individual members of the household indeed should count as "owner". SILC records who is responsible for the accommodation defined as the person owning or renting the accommodation. If two persons share responsibility for the accommodation, this is also recorded as separate variable. If more than two persons share the responsibility, only the two oldest persons are registered as owners (see Figure A1 for details). Consequently, there can be more complex constellations, e.g. where the father in-law who is the sole owner of the welling and co-resides with his own son, his grand-child and his daughter in-law. Whom of the household members shall we count as owners so that it is meaningful for our research question? We choose two options and recoded the household tenure status at the individual level as follows: definition 1) (our default) owner (coded "1" if applicable and recoded to zero otherwise) being defined as the person who owns the dwelling herself or shares ownership with another household member, definition 2) owner being defined as the person who owns the dwelling herself or shares ownership with another household member *or* lives in a household where his/her partner is the sole owner.[6] However, from 2021 onwards, Eurostat dropped two variables from SILC that capture if the respondent has sole or shared responsibility for the accommodation. This leads to a break in time series and a substantial drop in the share of homeowners if we continue to use our "owner" and "reference person" from definition 1. We thus discharge observations from 2021 and 2022 in our analysis. Overall, we cover an observation window from 2004 to 2020 for most countries (Table A2).

5 Results: the intergenerational homeownership gap

5.1 The overall picture

We start with a short discussion of differences between the Generation X and Millennials in general (Table A6) and between owners in both generations (Table A7). Several

[5] For full details of the housing tenure definitions in UDB SILC since 2004s see page 137 in the Methodological guidelines 2022 operation, https://ec.europa.eu/eurostat/web/income-and-living-conditions/methodology, August 9, 2024.

[6] We regard option 2 as a robustness check. Detailed results are available from the authors upon request.

important economic variables, such as the share of each generation in low income quartiles or the average the rent-to-income ratio are very similar. From the long list of sociodemographic variables, only a few differences between the generations are salient. On the one hand, Millennials are much less likely to be married (-17 percentage points), less likely to have ever worked (-13 percentage points) and less likely to have children with a partner in the household (-11 percentage points). In addition, Millennials had been in paid employment for around 2 years less than Generation X at the time of the survey. On the other hand, Millennials are more likely to have a university degree (+6 percentage points). Interestingly, when we look at the group of young owners, we do not find any substantial deviations from the pattern of the general population, except for the fact that the generational differences are slightly smaller in the proportion of those who have ever worked (-9 percentage points). From this exploration we take with us to control for as many sociodemographic factors as possible and see if the generational homeownership gap prevails.

Turning now to the intergenerational homeownership gap, we see that even after controlling for a broad range of demographic (including age), employment-related and income variables there remains a statistically significant homeownership gap between GenX and other birth cohorts (Figure 3 and Figure 4). For Millennials, our multivariate regression models suggest an average homeownership gap of between minus 16 and minus 12 percentage points across Europe.[7] The generational difference is slightly smaller for outright ownership than mortgage ownership.

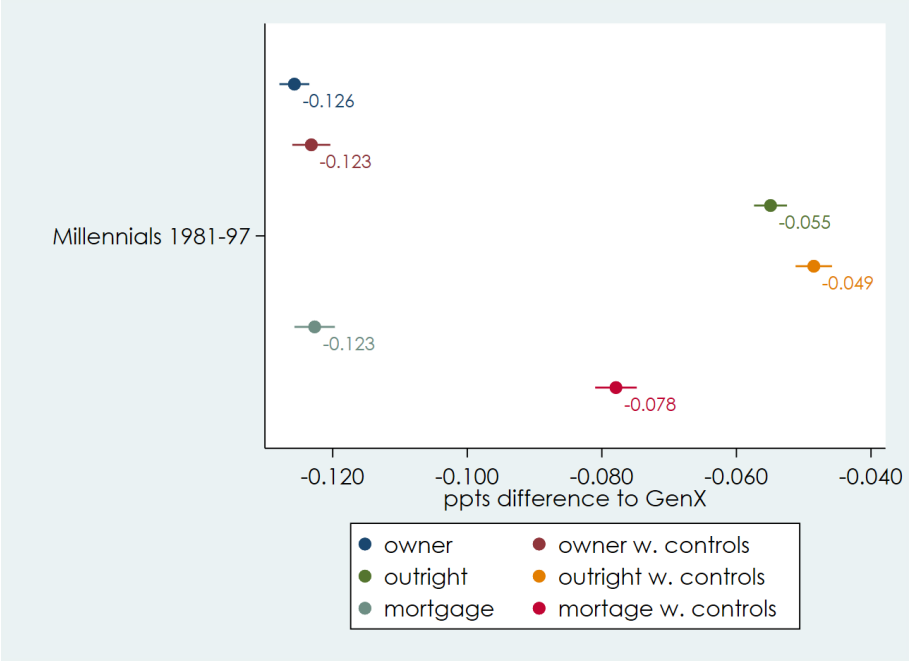
Moreover, if we look at European countries separately (Figure 5), in almost all countries the intergenerational homeownership gap – adjusted for sociodemographic differences – can be observed. However, there is a large variation with a gap of roughly -15 percentage points in Iceland and of roughly -5 percentage points in Sweden. Differentiating between outright owners and mortgage owners (Figure 6 & 7) reveals that the generational gap is much smaller and more often statistically insignificant for the former.

5.2 Testing explanations at the micro level

We continue our analysis with an investigation of particular explanations related to specific economic constraints. A major candidate is intergenerational income differences. We first test the hypothesis (H1) that young Millennials are on average poorer in terms of income than young GenX back then and that this is correlated with a lower homeowner rate among the former. In other words, we ask if income has become more important for homeownership among Millennials (to purchase a home it has become more important to be in the upper part of the income distribution) than it used to be compared to Gen X. We operationalize this by estimating interaction effects of the two generations with income

[7] This negative difference also holds when we estimate a logistic regression (Figure A4) instead of our LPM and when we estimate an LPM where we are more agnostic about defining age groups and generations (Figure A3).

Figure 3: Main regression results Europe (if age 25-34)



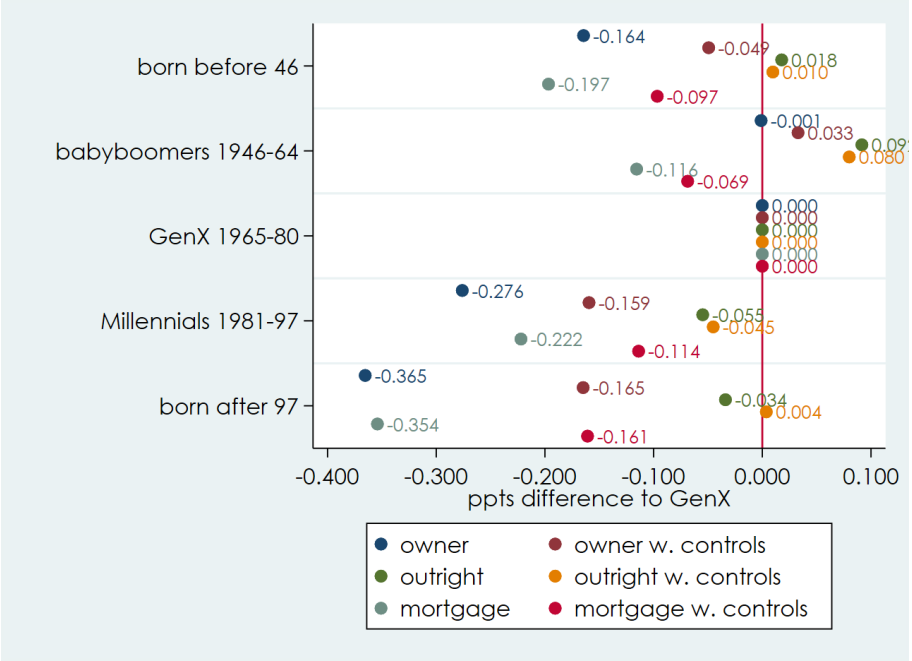
Notes: Own estimations based on UDB SILC. See Table A8 for all model coefficients. Coefficients and 95% confidence intervals from OLS linear probability models based on pooled cross-sections 2004-2020 including country and year fixed effects. For a list of control variables see Table A6. Estimates represent percentage point differences for the likelihood of ownership for Millennials relative to Generation X.

quartiles. If H1 holds, then the differences in the likelihood of homeownership between generations should be lower in higher income groups (the two lines are parallel). Our analysis, however, does not support this hypothesis. A visual inspection of Figure 8 already shows that a higher income results in a higher probability of ownership in both generations but it also shows that the lower homeownership likelihood for Millennials compared to GenX is equally common (a statistically insignificant interaction effect) across *all* income groups, even for the rich. Looking at the interaction coefficients (Table 2) we see that *change* of the homeownership probability, measured in percentage points, when switching from the first quartile to the second or third or fourth quartile is even significantly lower (income matters less) for Millennials than for GenX.[8] Interestingly, outright ownership, is more common for lower incomes than for higher incomes, in both generations.

The second hypothesis (H2) which is to be tested refers to the impact of rent burden on the likelihood of transitioning to homeownership. Higher rent burdens, defined as a greater proportion of income spent on rent, could mean that households have less disposable income available to save for a future down payment. Based on data from the Panel Study of Income Dynamics for the US Choi et al. (2018) reveal that 18-to-34-year-old

[8] e.g. by +0.044 for GenX from 1st to 2nd vs by +0.0338 (+0.044-0.0102) for Millennials from 1st to 2nd.

Figure 4: Main regression results Europe (no age restriction)



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renters experiencing a higher rent burden are less likely to become homeowners in the subsequent period. An increase of 1 percent in the rent-to-income ratio results in a 0.07 percentage point reduction in the probability of achieving homeownership, after accounting for demographic and socioeconomic factors.

Using annual panel data from the UDB SILC[9], our regression analysis shows that a 10 percentage point increase in the rent-to-income ratio is generally associated with a 0.6 percentage point decrease in the probability of homeownership in the following year (Figure 9), ceteris paribus. This finding holds for both generations and underlines the important role that rent burden plays in shaping the path to homeownership for renters. By modelling interaction effects between generation and rent burden, we further test a third hypothesis, namely that higher rent burden reduces the likelihood of homeownership in the subsequent period to a greater extent for Millennials than for GenX (Figure 10). Our regression models show a statistically significant negative interaction effect, supporting our hypothesis (Table 3).

Our third hypothesis (H3) relates to the literature that provides evidence for a positive

[9]The longitudinal component of the EU-SILC UDB is a rotational panel where participants remain for a maximum of 4 years. Each year a quarter of the sample (rotation group) is replaced (Wirth and Pforr, 2022). We stack all unique rotational groups (across countries) from 2004 to 2020.

Table 2: The effect of income on ownership for different generations

	(1) owner	(2) outright	(3) mortgage
GenX 1965-80	0	0	0
Millennials 1981-97	-0.108***	-0.0606***	-0.0428***
1	0	0	0
2	0.0440***	-0.0249***	0.0804***
3	0.0875***	-0.0295***	0.136***
4	0.130***	-0.0397***	0.179***
GenX 1965-80 × 1	0	0	0
GenX 1965-80 × 2	0	0	0
GenX 1965-80 × 3	0	0	0
GenX 1965-80 × 4	0	0	0
Millennials 1981-97 × 1	0	0	0
Millennials 1981-97 × 2	-0.0102**	0.0155***	-0.0354***
Millennials 1981-97 × 3	-0.0143***	0.0123***	-0.0417***
Millennials 1981-97 × 4	-0.0277***	0.0168***	-0.0497***
Constant	-0.0967***	0.0437***	-0.0658***
Observations	991061	659848	659848
Adjusted R^2	0.198	0.108	0.254

Coefficents correspond to changes of the likelihood in percentage points, -0.108 -> a change of 11 pp. Control variables not displayed. Control variables are listed in Table A6.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: The effect of rent burden on ownership for different generations

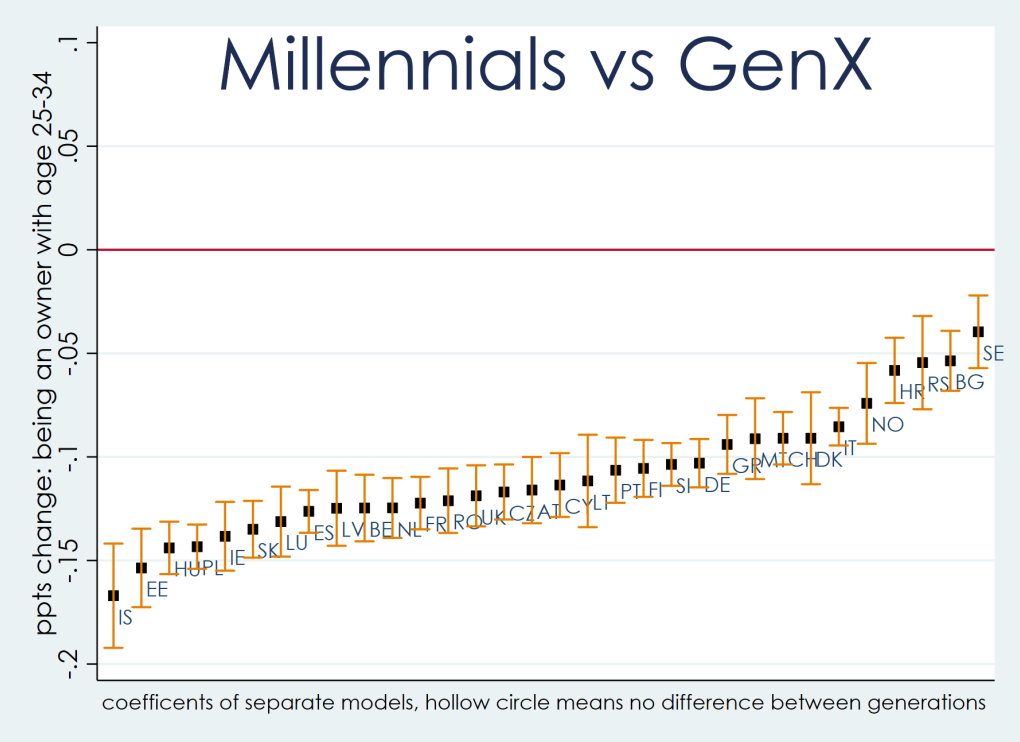
	(1) owner
rentburden	-0.0468***
GenX 1965-80	0
Millennials 1981-97	0.00952***
GenX 1965-80 × rentburden	0
Millennials 1981-97 × rentburden	-0.0230**
Observations	132317
AIC	42110.8

Source: EU-SILC UDB stacked 4-year panels over 2004-2020.

Only age 25-34. Rent burden = rent-to-income ratio. Control variables not displayed. Control variables are marital status, employment status, education, degree of urbanization, sum of children under14, equivalized income quartile and country fixed effects (Table A6).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 5: Homeownership: Country regressions (age 25-34)

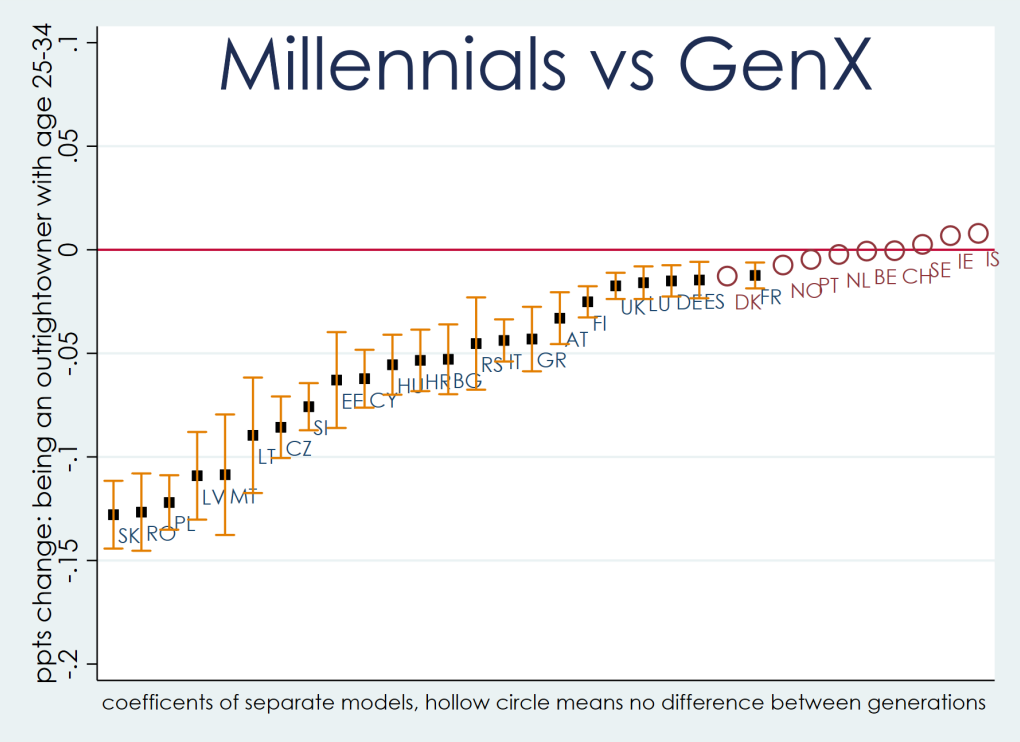


Notes: Coefficients and 95% confidence intervals from multivariate OLS linear probability models based on pooled cross-sections with year fixed effects. For a list of control variables see Table A6. Estimates represent percentage point difference for the likelihood of ownership for Millennials relative to Generation X. Years covered vary by country (Table A2).

impact of homeownership on life satisfaction and housing satisfaction (Park, Park, and Kim, 2022; Clark and Diaz-Serrano, 2022; Miao and Wu, 2023). We test, if the effect of homeownership on life satisfaction and housing satisfaction is different for Millennials and Generation X. The intuition is that if homeownership is correlated with lower (or zero) life satisfaction for Millennials than for Generation X, this could ceteris paribus render a shift in preferences away from homeownership to renting more likely among Millennials. Our estimations indeed indicate that homeownership does not seem to come with higher life satisfaction anymore for Millennials. There is no statistically significant difference between renters and owners among Millennials whereas owners showed (though very marginally) higher life satisfaction than renters among GenX. For housing satisfaction the differences are statistically significant but utterly small in magnitude (Figure 11). The interaction effect is statistically significant and negative, meaning that the difference in life satisfaction between homeowners and renters is much smaller for Millennials than for GenX (Table 4).

Finally, to assess the relative importance of sociodemographic variables in explaining the homeownership gap we applied a nonlinear decomposition analysis for binary outcome

Figure 6: Outright homeownership: Country regressions (age 25-34)



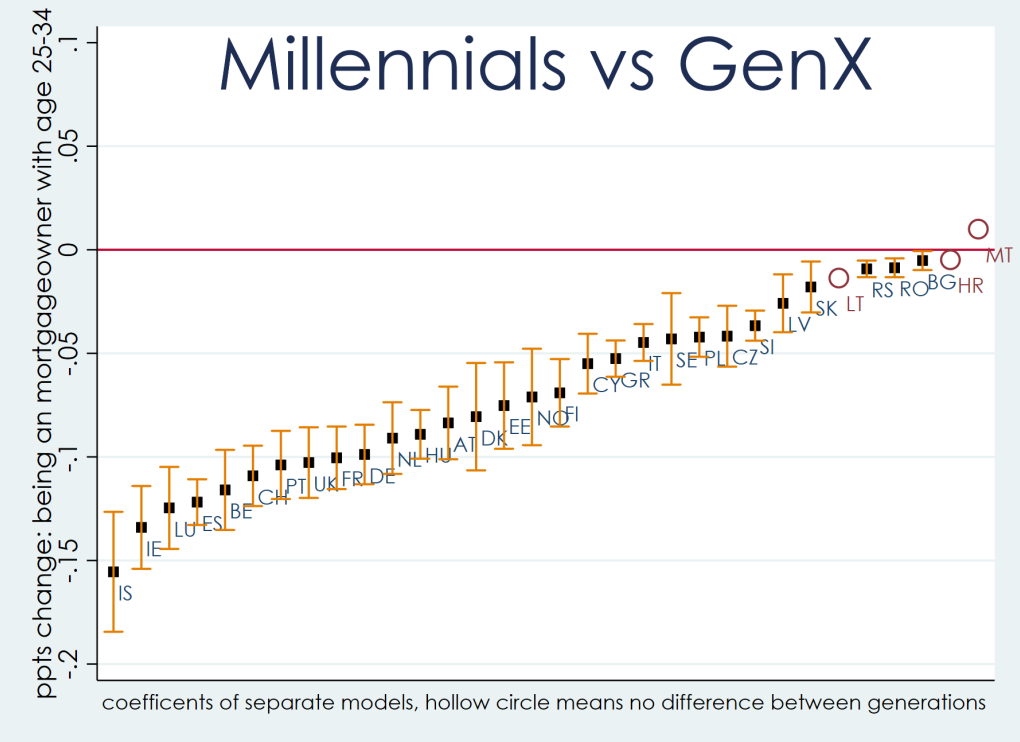
Notes: Coefficients and 95% confidence intervals from multivariate OLS linear probability models based on pooled cross-sections with year fixed effects. For a list of control variables see Table A6. Estimates represent percentage point difference for the likelihood of outright ownership for Millennials relative to Generation X. Years covered varies by country (Table A2).

differentials as developed by Fairlie (1999, 2005)[10]. This method allows to quantify the overall contribution of group differences in the independent variables to the intergenerational homeownership differential between Millennials and GenX (Figure 12). Moreover, this methods estimates the separate contributions of the individual independent variables (or groups of independent variables).

First, our results indicate a large variation of the the %-share of the gap that can be explained by our independent variables. It ranges from virtually zero in Germany to 90% and more in Slovakia and Norway. Second, we look at relative contributions of groups of independent variables to the explained part of the gap. The black lines in Figure 13 represent the raw (bivariate) total gap between generations, measured in percentage points. The sum of all colored bars is how many percentage points of the raw gap can be explained by sociodemographic differences between millenials and GenX (Table A6 on differences between Millennials and GenX). If a bar is negative this means that ceteris paribus this group of variables would reduce the homeownership gap. In sum, we see that in most countries it is primarily the intergenerational differences in marital status and (to a lesser degree) household type that drive the homeownership gap. In

[10]We implemented the decomposition in Stata using the `fairlie` command by Jann (2006)

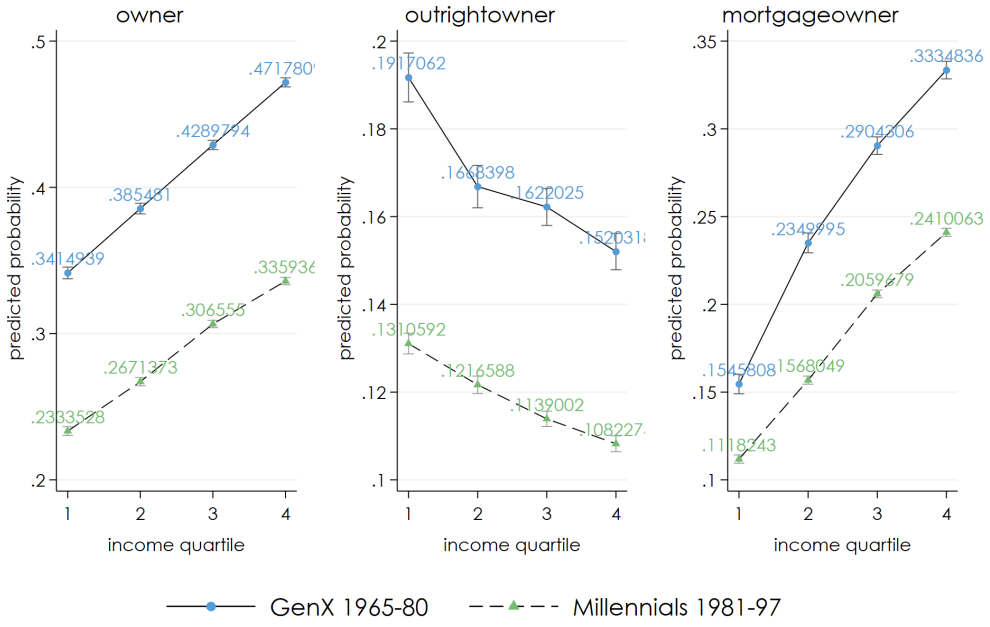
Figure 7: Mortgage homeownership: Country regressions (age 25-34)



Notes: Coefficients and 95% confidence intervals from multivariate OLS linear probability models based on pooled cross-sections with year fixed effects. For a list of control variables (without contry dummys) see Table A6. Estimates represent percentage point difference for the likelihood of mortgage ownership for Millennials relative to Generation X. Years covered varies by country (Table A2).

the Scandinavian countries marital status and household type are of equal relevance. In contrast, income and employment differences barely matter. Also if we analyse the gap for mortgage homeownership, marital status and the household composition matter by far the most (figure not displayed). A generally higher education level reduces the homeownership gap for Millennials (negative bars).

Figure 8: Ownership likelihood by income quartile (in age group 25-34)



Notes: Predicted probability of ownership (ceteris paribus) and 95% confidence intervals based on estimates from multivariate OLS linear probability models. Control variables are listed in Table A6. Predictions are based on means (proportions of categories) of continuous (categorical) covariates. Income refers to the equivalised household income. Regression estimates are provided in Table 2.

Table 4: The effect of ownership on satisfaction, by generation

	(1) Life satisfaction	(2) Housing satisfaction
GenX 1965-80	0	0
Millennials 1981-97	0.255***	-0.0264
renter	0	0
owner	0.123***	0.487***
Millennials 1981-97 × owner	-0.0897**	-0.0291
Constant	6.783***	10.57***
Observations	82704	43407
Adjusted R^2	0.287	0.239

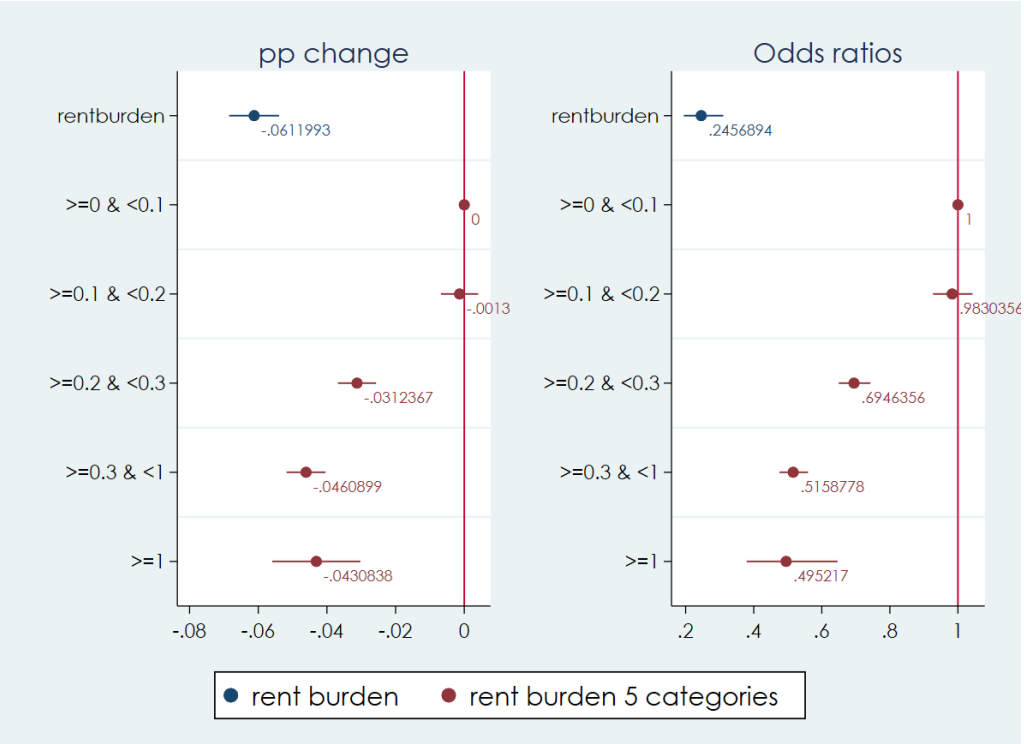
Estimations based on pooled cross-sections 2008/2013 (life) and 2013 (housing).

Coefficients correspond to changes of the likelihood in percentage points, -0.108 -> a change of 11 pp.

Control variables not displayed.

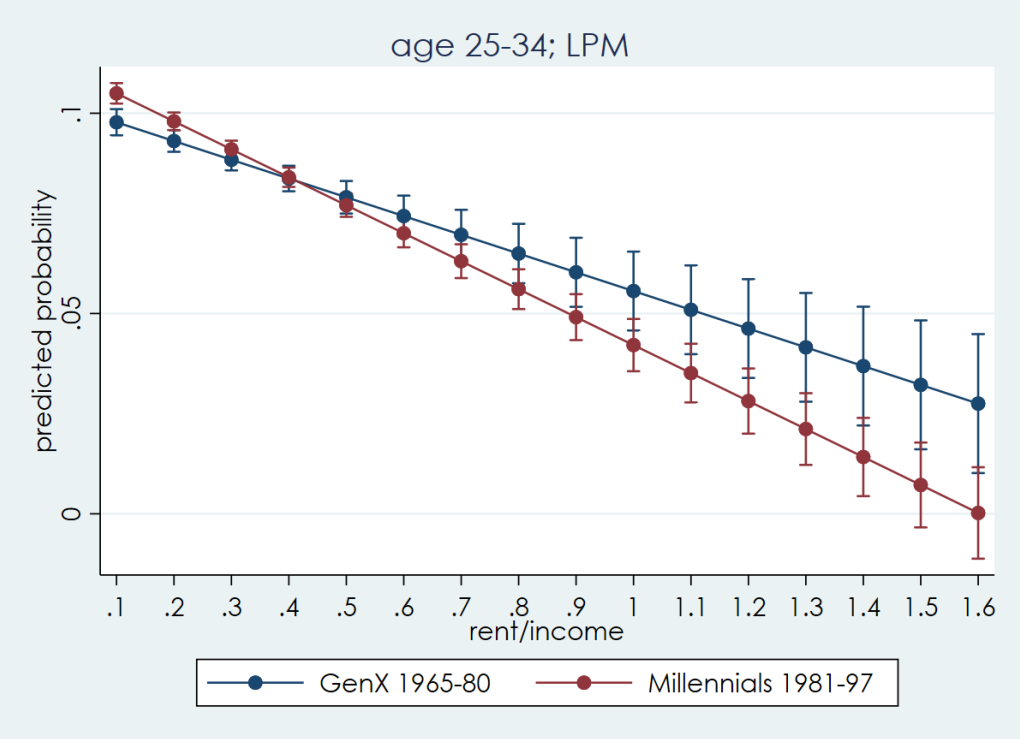
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 9: Main (direct) effect of rent burden



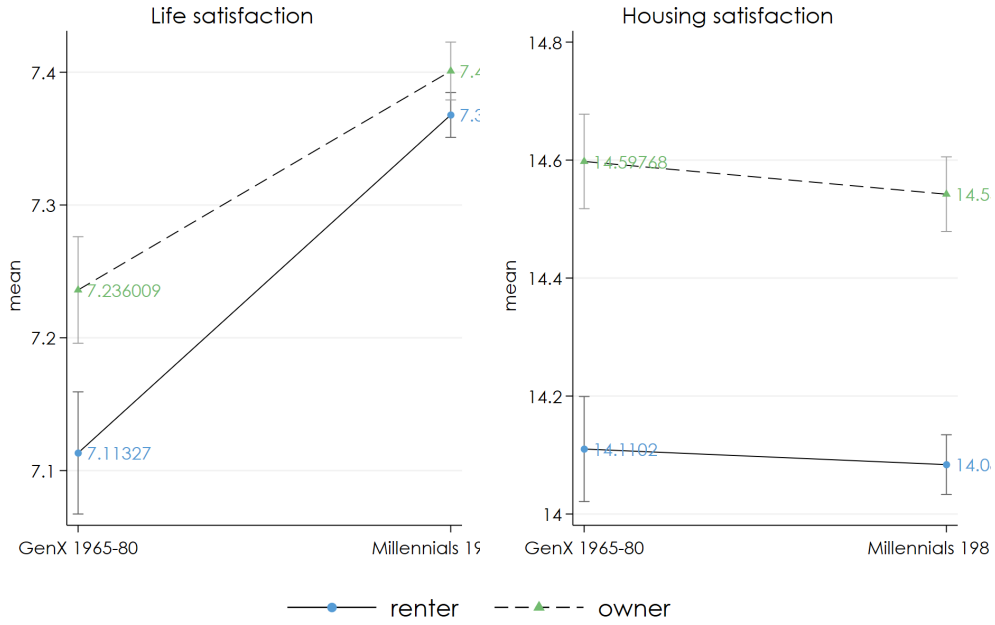
Notes: Estimations based on EU-SILC UDB stacked 4-year panels over 2004-2020. Rent burden = rent/income. Control variables are marital status, employment status, education, degree of urbanization, sum of children under14, equivalized income quartile and country fixed effects (Table A6).

Figure 10: Is the effect of rent burden stronger for Millennials?



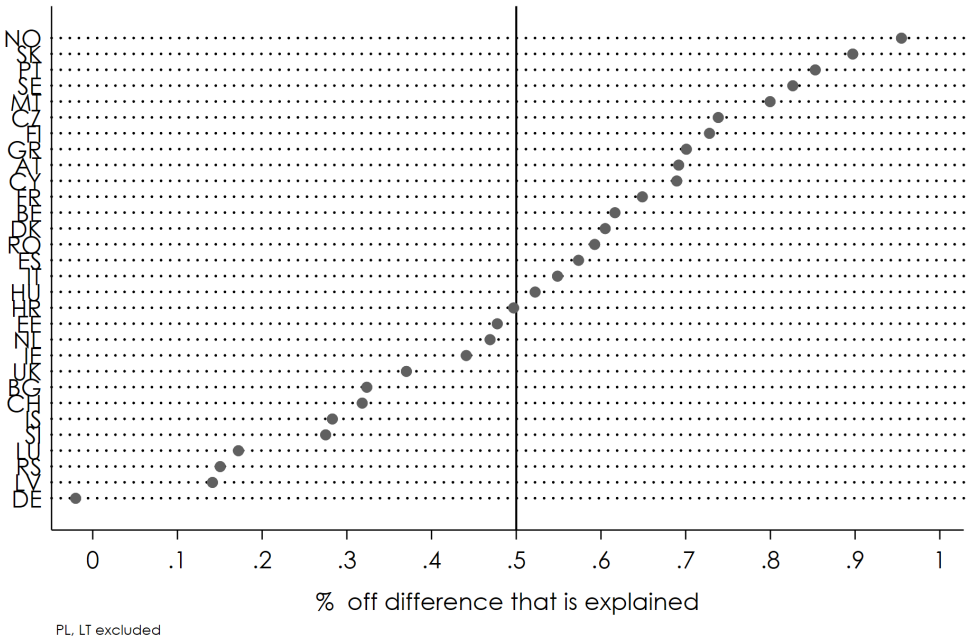
Notes: Estimations based on EU-SILC UDB stacked 4-year panels over 2004-2020. Rent burden = rent/income. Predicted ceteris paribus probability of ownership based on estimates from multivariate OLS linear probability regression models with homeownership (1/0) in the subsequent year as dependent variable and independent variables (including control variables) in the current year. Control variables are listed in Table A6. Standard errors clustered at the individual level. Predictions are based on means (proportions of categories) of continuous (categorical) covariates. The estimate for the interaction effect between generation (Millennials=1, GenX=0) and rent burden is -0.0230 and statistically significant at the 1% level.

Figure 11: Wellbeing differences between homeowners and tenants



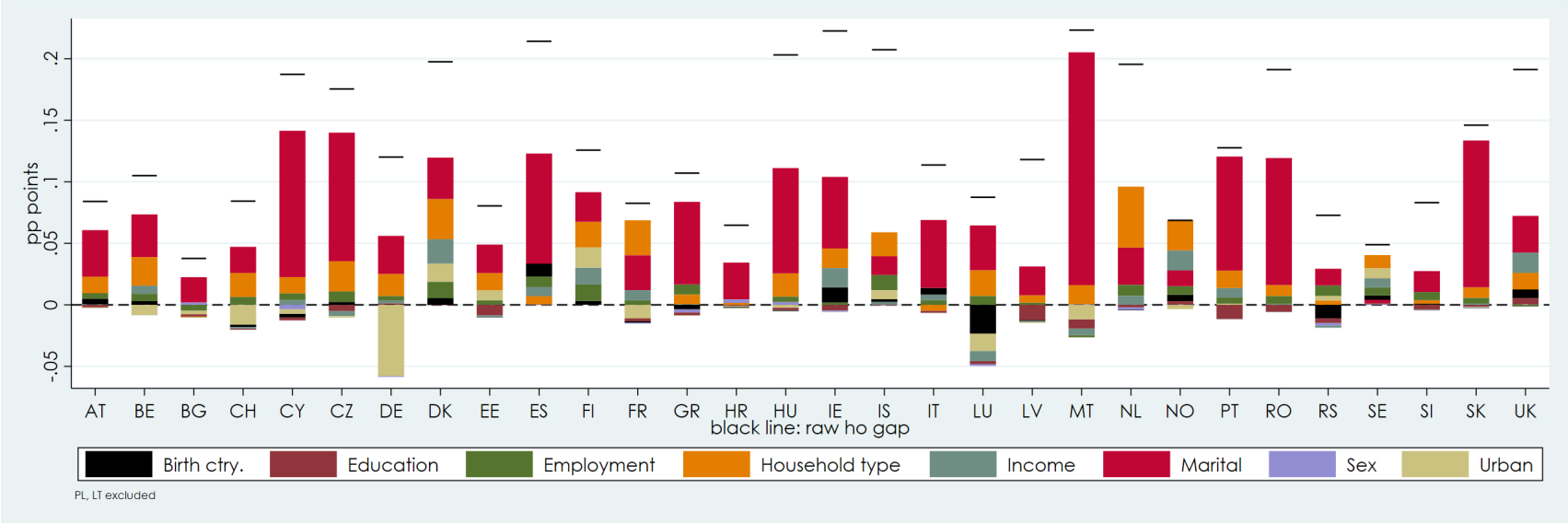
Notes: Predicted means of life satisfaction (range from 0-10) and housing satisfaction (range from 0-20). Higher values correspond to higher satisfaction. Estimations based on pooled cross-sections 2008/2013 (life) and 2013 (housing). 95% confidence intervals based on estimates from multivariate OLS linear probability models. Predictions are based on means (proportions of categories) of continuous (categorical) covariates. Control variables are listed in Table A6. Satisfaction variables are only available in SILC for the years 2013/2018 (left panel, N=83625) and 2013 (right panel, N=43931).

Figure 12: Explained part of intergenerational homeownership gap



Notes: Figure shows the percentage of the intergenerational differences between Millennials and GenX that can be explained by variables included in the model (Table A6). Estimations based on `fairlie` command by Jann (2006) based on UDB SILC. Pooled cross-sections 2004-2020 for generations in the same age group 25-34.

Figure 13: Fairlie Decomposition



Notes: Figure shows how many percentage points of the intergenerational differences between Millennials and GenX can be explained by variables included in the model (Table A6). Estimations based on `fairlie` command by Jann (2006) based on UDB SILC. Pooled cross-sections 2004-2020 for generations in the same age group 25-34. For detailed definitions of independent variables see Table A6.

5.3 Correlations at the macro level

In the final step of the analysis, we use the variation in the intergenerational homeownership gap across European countries (Figure 5) and correlate it with variables measured at the country level. Again, our aim is to examine the empirical evidence for the main explanations put forward in the literature (section 2). In particular, we focus on attitudes towards the importance of being rich, mortgage interest rates, housing prices (mortgage and rent) and and indicators that capture the tightness of lending standards for housing credits. Table 5 provides details of all the macro variables used in this analysis. For each indicator, we calculate the mean over all relevant and available years separately for Millennials and for GenX when they were 25-34 years old[11]. We calculate both an unweighted mean and a weighted mean_w. For the latter, the value of an indicator in a given year is weighted by the share of Millennials and GenX respectively (with the sum of both generations equal to 100%). We then take the difference in this average over the years 2004-2020 between Millennials and GenX and correlate it with the intergenerational homeownership gap derived from our country regressions. If these correlations are statistically insignificant or small in magnitude, this would suggest that something other than economic constraints is driving the homeownership gap.

From Table 6 we can clearly see that none of these variables has a statistically (or economically) significant correlation with the intergenerational homeownership gap.[12] Therefore these selected differences in economic constraints between the generations do not help to explain the differences in the gap between European countries.

[11] GenX: 2004-2015, Millennials: 2006-2020

[12] This result does not change if we use either the outright ownership or mortgage ownership gap. Detailed results are available upon request from the authors.

Table 5: Macro variables: definitions and sources

abbreviation	definition	source
creditdiff	A positive net percentage indicates that a larger proportion of banks has tightened credit standards ("net tightening") over the past three months, whereas a negative net percentage indicates that a larger proportion of banks has eased credit standards ("net easing").	ECB Bank Lending Survey, https://www.ecb.europa.eu/stats/ecb_surveys/bank_lending_survey/html/index.en.html
imprichdiff	Agreement 'Important to be rich, have money and expensive things' ('Now I will briefly describe some people. Please listen to each description and tell me how much each person is or is not like you, 1: Very much like me, ..., 6: Not like me at all')	European Social Survey, multiple waves
hpdiff	Nominal house prices deflated by private consumption deflator, 2015 = base year	OECD (2024), OECD Affordable Housing Database - indicator HM1.2 House Prices, https://oe.cd/ahd
rpdiff	Real rent prices indexed, 2015 = base year	
ptidiff	Nominal house price divided by nominal disposable income per head, 2015 = base year	
interestdiff	Cost of borrowing for households for house purchase per anno	European Central Bank
interestdiff_emf	Representative Interest Rates on New Residential Loans. Annual average based on monthly figures, %	EMF European Mortgage Foundation (2016, 2024)

Notes: Own compilation.

Table 6: Pearson Correlations

Macro variables	Correl. with HO gap	Correl. with HO gap, weighted	N (countries)
creditdiff	-0.1188	-0.3484	15
p-value	0.6733	0.2031	
imprichdiff	-0.0057	n.a.	29
p-value	0.9766	n.a.	
hpdiff	-0.0387	0.2135	26
p-value	0.8511	0.2950	
rpdiff	-0.3052	0.1279	26
p-value	0.1295	0.5336	
ptidiff	0.2600	0.4047	26
p-value	0.1995	0.0403	
interestdiff	-0.0288	0.0878	19
p-value	0.9069	0.7209	
interestdiff_emf	0.0100	0.2841	29
p-value	0.9588	0.1353	

Notes: HO gap = intergenerational homeownership (coefficients) from separate OLS LPM country estimations (Figure 5). See table 5 for sources and definitions of macro variables. is EU-SILC UDB. Pooled cross sections. For the weighted correlations, the value of an indicator in a given year is weighted by the share of the Millennials and GenX respectively (with the sum of both generations equal to 100%).

6 Conclusions

This study contributes to the ongoing discourse on the homeownership gap between generations, focusing in particular on the differences between Generation X and Millennials. For the latter, lower homeownership rates have been consistently observed in the literature. By employing a multi-country analysis, we provide a comprehensive examination of the factors influencing this intergenerational homeownership gap in Europe. We also add to the literature by quantifying the relative importance of different economic constraints and sociodemographic factors in explaining the homeownership gap. This decomposition analysis provides a nuanced perspective on how much of the gap can be attributed to observable sociodemographic and socioeconomic variables, and how much remains unexplained and is therefore potentially due to changing preferences. We also examine the variation in cohort effects across different national contexts. By correlating the intergenerational homeownership gap with macroeconomic price and credit indicators, we aim to uncover the broader economic dynamics at play.

The results of our decomposition analysis indicate that, of the demographic, employment and income variables that were available in our data and included in the models, differences in marital status and household composition are the main drivers of the intergenerational gap in almost all the European countries in our sample. On the other hand, income and employment factors as well as rent burdens turned out to be less relevant. However, these factors cannot fully explain the gap. Even after controlling for a wide range of demographic, employment and income variables, we find that a statistically

significant gap in homeownership remains in Europe, with Millennials having a lower probability of homeownership compared to Generation X. This (ceteris paribus) gap also varies across European countries. We exploit this cross-country variation but find no significant correlations with generational differences in aggregate borrowing costs, house prices or access to credit, which are sometimes suggested as explanations in the literature. In addition, we examine the relationship between homeownership and life satisfaction and find that Millennials do not experience the same benefits from homeownership as Generation X. Our analysis also provides some evidence that higher rent-to-income ratios of current young renters are associated with lower probabilities of future homeownership for both generations, with Millennials being more adversely affected. Our overall findings do not change significantly when we look at mortgage holders separately.

In summary, our analysis shows that additional factors beyond economic constraints are at play in explaining the intergenerational homeownership gap, and that a change in preferences away from homeownership could be one explanation. At this point, our study comes with a number of limitations, which also point to avenues for future research. First, although desirable, we cannot directly examine the effect of differences in stated homeownership preferences between generations. However, our investigation of potential data sources for this study revealed that there are only a few surveys (often conducted by banks) of stated housing preferences for individual countries, where the overall representativeness of the sampled respondents is questionable. There is a lack of comparative and representative cross-country surveys that would allow a methodologically sound comparison between cohorts, holding age (group) constant. The production of data on stated preferences for future tenure through current or new surveys would contribute significantly to the understanding of intergenerational differences in tenure patterns. Second, EU-SILC does not provide detailed information on financial assets, current savings and expected inheritances. These can have a significant impact on the likelihood of homeownership among young adults (Blickle and Brown, 2019) and, if generational differences exist, could be an additional part of the explanation for the gap. Third, in order to condense information and make our work comparable with existing research, we have chosen a specific definition of two birth cohorts ("generations"; Millennials and Generation X) of main interest, against a background where there is no clear consensus in the literature on how to define generations. Over time, as more survey waves (and thus larger samples) become available for more recent cohorts than Millennials, it may be worthwhile to extend the analysis to even younger birth cohorts.

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A Appendix

Table A1: Country abbreviations

AL	Albania
AT	Austria
BE	Belgium
BG	Bulgaria
CH	Switzerland
CY	Cyprus
CZ	Czechia
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
ME	Montenegro
MK	North Macedonia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
RS	Serbia
SE	Sweden
SI	Slovenia
SK	Slovakia
TR	Turkey
UK	United Kingdom

Table A2: Years covered and sample

Country	Min	Max	N	N regression	N, age 25-34	N regression (25-34)
AT	2004	2020	182999	177305	25064	24020
BE	2004	2020	191516	176873	29493	26556
BG	2007	2020	181529	178662	21077	20531
CH	2007	2020	191974	167966	24486	20914
CY	2005	2020	145215	142508	22442	22145
CZ	2005	2020	260355	258741	36617	36299
DE	2005	2020	388186	370093	39623	37337
DK	2004	2020	186025	176555	20332	18997
EE	2004	2020	193401	187069	25427	24326
ES	2004	2020	499256	463375	69503	64031
FI	2004	2020	339416	327503	41754	39684
FR	2004	2020	341225	324561	44974	42367
GR	2008	2020	324586	319623	36849	36162
HR	2010	2020	158825	158287	17369	17348
HU	2005	2020	278881	275942	38463	37815
IE	2004	2020	161206	151298	20296	18878
IS	2004	2018	95285	87573	14942	13611
IT	2004	2020	691828	634791	89426	80496
LT	2005	2020	162446	159094	15422	15022
LU	2004	2020	140922	135797	25818	24718
LV	2005	2020	176016	170527	22603	21379
MT	2007	2019	120163	67324	10238	10113
NL	2005	2020	321177	293623	37272	32424
NO	2004	2020	188947	177598	27205	24599
PL	2005	2020	508569	459551	77621	65752
PT	2004	2020	273890	254218	30801	30011
RO	2007	2020	219489	214019	25951	25227
RS	2013	2020	116575	115954	16857	16828
SE	2004	2020	203122	187135	26976	24859
SI	2005	2020	367104	363088	57646	56905
SK	2005	2020	208645	206725	33464	33036
UK	2005	2018	254390	207803	35966	28671
total			8073163	7591180	1061977	991061

Notes: Source is EU-SILC UDB. Pooled cross sections. N: all observations with non-missing values for the owner variable. N regression: sample after adding covariates in the two baseline specifications.

Figure A1: Person responsible for the accommodation in EU-SILC

Chapter 2: Description of EU-SILC Target variables — Household Data (H-file)

HB070: Person responding the household questionnaire

Domain/Area	Basic data/Basic household data
Transmission type	Regular
Reference period	Current
Unit	Household
Mode of collection	Interviewer
Values	*Personal ID*
Flags	*1* Filled *-1* Missing

Description

The household respondent is the person from whom household-level information is obtained. Given that the household-level response is going to be attributed to all household members, it is essential that the information be collected from someone who can, in some sense, 'speak for' the household.

For instance, if the 'selected respondent' is the 16-year old son or daughter, this person is highly unlikely to be able to provide good quality information on such issues as mortgage or rent payments, housing costs, income from family and other benefits.

The household respondent will be chosen according to the following priorities:

Priority (1): the person responsible for the accommodation

Priority (2): a household member aged 16 and over who is the best placed to provide the information.

For the second and following waves, the household respondent will be chosen according to the following list of priority:

Priority (1): the household respondent in the last wave

Priority (2): a 'sample person' aged 16 and over giving priority to the person responsible for the accommodation or the best placed to provide the information.

Priority (3): a 'non-sample person' aged 16 and over.

HB080: Person 1 responsible for the accommodation

HB090: Person 2 responsible for the accommodation

Domain/Area	Basic data/Basic household data
Transmission type	Regular
Reference period	Current
Unit	Household
Mode of collection	Interviewer
Values	*Personal ID*
Flags	*1* Filled *-1* Missing *-2* (for HB090 only) not applicable - no second person responsible for the accommodation

Description

The person responsible for the accommodation is the person owning or renting the accommodation. If the accommodation is provided free, the person to whom the accommodation is provided is the responsible person.

If two persons share responsibility for the accommodation, the ID of the oldest is registered in HB080 and the other in HB090. If more than two persons share the responsibility, only the IDs of the two oldest persons are registered.

If the person owning the accommodation is a child or if the person owning or renting the accommodation does not belong to the household, then the person who is "financially responsible" for the accommodation will be taken to be the person who is responsible for the purpose of the survey.

Source: EU-SILC UDB Documentation (issued by Eurostat).

Table A3: Sample size for young owners (25-34)

	Owner		Outright owner		Mortgage owner	
	GenX 1965-80	Millennials 1981-97	GenX 1965-80	Millennials 1981-97	GenX 1965-80	Millennials 1981-97
AT	3150	3217	277	871	762	2214
BE	5256	6080	64	307	1772	5502
BG	1152	2103	524	1884	36	110
CH	1152	1394	13	52	702	1302
CY	2847	2539	453	1114	603	1295
CZ	8810	6675	1496	2902	1597	3370
DE	3780	3707	149	595	961	2829
DK	5318	3263	123	458	1161	2578
EE	4332	6461	566	3140	544	2744
ES	14054	7852	812	2544	3169	4662
FI	10661	9871	303	735	3076	8615
FR	7824	8401	223	625	2518	7395
GR	1925	5580	728	4460	370	1019
HR	410	1672	358	1399	52	273
HU	9982	6476	1932	4027	1885	1938
IE	3640	2130	70	385	832	1528
IS	4304	3512	41	362	803	2854
IT	11484	7345	943	3900	1018	2845
LT	2901	3641	780	2486	231	961
LU	4795	4199	109	349	1845	3611
LV	3605	4596	1015	3094	365	1146
MT	1940	2612	339	806	427	1504
NL	8357	10477	58	238	3057	9733
NO	6999	8180	147	594	1829	7208
PL	11743	14273	3031	9237	1217	4284
PT	3397	4439	202	1272	981	3033
RO	4256	4879	1818	4423	68	130
RS	260	2222	240	2176	20	46
SE	3718	3926	11	201	1023	3355
SI	6930	6574	1645	4456	702	1576
SK	5437	5898	1413	3486	556	2066
UK	6111	5456	131	333	1836	4706

Notes: EU-SILC UDB, pooled cross-sections 2004-2020. See section 4 for definition of owners. Sample size after including covariates in baseline regression specification.

Table A4: % share of generations in age group 25-34 by year

	GenX 1965-80	Millennials 1981-97
2004	100.00	0.00
2005	100.00	0.00
2006	95.21	4.79
2007	85.62	14.38
2008	76.04	23.96
2009	67.21	32.79
2010	57.84	42.16
2011	47.32	52.68
2012	36.79	63.21
2013	26.81	73.19
2014	16.71	83.29
2015	6.05	93.95
2016	0.00	100.00
2017	0.00	100.00
2018	0.00	100.00
2019	0.00	100.00
2020	0.00	100.00

Source: EU-SILC UDB. Unweighted results. Pooled sample (across countries), after including covariates in baseline regression specification.

Table A5: % share of age by generation within age group 25-34

age	GenX 1965-80	Millennials 1981-97
25	2.75	14.52
26	4.18	13.49
27	5.62	12.01
28	7.17	11.06
29	8.83	10.18
30	10.57	9.59
31	12.64	8.77
32	14.14	7.71
33	16.11	6.78
34	18.00	5.89
Total	100.00	100.00

Source is EU SILC UDB. Pooled cross sections 2004-2020. Unweighted frequencies. Sample size after including covariates in baseline regression specification.

Table A6: Socio-demographic differences between generations, age group 25-34

Variable	GenX 1965-80 Mean	Millennials 1981-9 Mean	difference
Owner	0.42	0.28	-0.14
Outright owner	0.17	0.11	-0.06
Mortgage owner	0.31	0.18	-0.13
Control variables			
Male	0.49	0.50	0.01
Female	0.51	0.50	-0.01
Never married	0.49	0.68	0.19
Married	0.47	0.30	-0.17
Separated	0.01	0.01	0.00
Widowed	0.00	0.00	0.00
Divorced	0.03	0.01	-0.01
Employment status: Employed	0.76	0.72	-0.04
Unemployed	0.09	0.12	0.03
Retired	0.00	0.00	0.00
Unable to work (health problems)	0.02	0.01	0.00
Student, pupil	0.03	0.07	0.04
Fulfilling domestic tasks	0.08	0.06	-0.03
Compulsory military or civilian service	0.00	0.00	0.00
Other	0.02	0.02	0.00
Education: pre-primary	0.00	0.01	0.00
ISCED 1	0.04	0.02	-0.02
ISCED 2	0.13	0.11	-0.02
ISCED 3	0.46	0.43	-0.02
ISCED 4	0.04	0.04	-0.01
Tertiary education	0.33	0.39	0.06
Birth country: Any other European country	0.04	0.04	0.00
Same country as country of residence	0.90	0.89	0.00
Any other country	0.06	0.07	0.00
Densely populated area	0.38	0.36	-0.02
Intermediate area	0.22	0.24	0.02
Thinly populated area	0.30	0.29	-0.01
Special code if db100 missing	0.10	0.11	0.02
Household type: one person hh	0.08	0.09	0.01
Adults, no children	0.36	0.46	0.10
Single parents	0.03	0.02	-0.01
2 adults and children	0.54	0.43	-0.11
Other household type	0.00	0.00	0.00
Equivalized pers. income: 1st qart.	0.18	0.19	0.01
2nd quarter	0.22	0.22	0.01
3rd quarter	0.29	0.29	0.00
4th quarter	0.32	0.30	-0.02
Other variables			
Age[1]	30.87	28.70	-2.17
No. of years spent in paid work	9.07	7.03	-2.04
Has ever worked (yes)	0.75	0.62	-0.13
Rent-to-income ratio[2]	0.22	0.24	0.02
Satisfaction with life (0-10)[3]	7.21	7.38	0.16
Satisfaction with housing (0-20)	14.38	14.24	-0.14

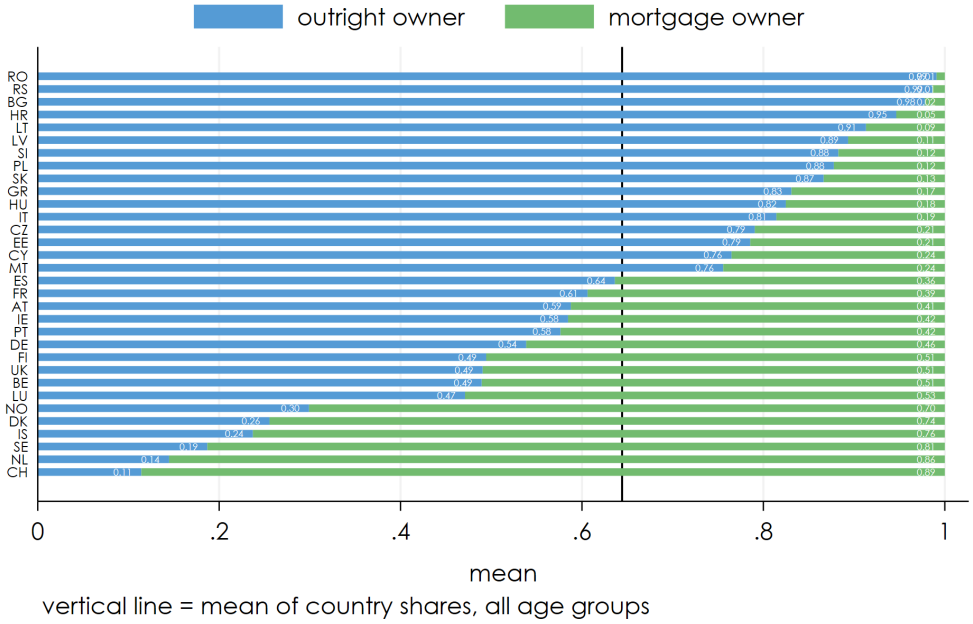
Notes: EU-SILC UDB, pooled cross-sections 2004-2020. Unweighted results. *Other variables* and are only included in some regression models. [1] Age groups: 18-24, 25-34, 35-50, 51-64, 65 and older. [2] Additional independent variable in panel regressions for the effects of rent burden on ownership. [3] The regression models for satisfaction (Table 4) also include the following control variables: health, consensual union (y/n), leaking roof, damp walls/floors/foundation, or rot in window frame/floor (y/n), ability to keep home adequately warm (y/n), number of rooms, financial burden of the total housing cost, dwelling: too dark, not enough light (y/n), Noise from neighbours/street (y/n), Pollution, grime or other environmental problems (y/n), Crime, violence or vandalism in the area (y/n).

Table A7: Owners only: differences between generations, age group 25-34

Variable	GenX 1965-80 Mean	Millennials 1981-97 Mean	difference
male	0.45	0.44	-0.01
female	0.55	0.56	0.01
Never married	0.33	0.49	0.15
Married	0.63	0.49	-0.14
Separated	0.01	0.01	0.00
Widowed	0.00	0.00	0.00
Divorced	0.02	0.01	-0.01
employment status: Employed	0.81	0.80	-0.01
Unemployed	0.06	0.07	0.01
Retired	0.00	0.00	0.00
Unable to work (health problems)	0.01	0.01	0.00
Student, pupil	0.01	0.03	0.01
Fulfilling domestic tasks	0.09	0.07	-0.02
Compulsory military or civilian service	0.00	0.00	0.00
Other	0.02	0.02	0.00
education: pre-primary	0.00	0.00	0.00
ISCED 1	0.03	0.01	-0.02
ISCED 2	0.11	0.09	-0.02
ISCED 3	0.45	0.41	-0.04
ISCED 4	0.04	0.03	-0.01
tertiary education	0.37	0.45	0.08
birth country: Any other European country	0.03	0.03	0.00
Same country as country of residence	0.93	0.93	0.00
Any other country	0.04	0.04	0.00
densely populated area	0.35	0.34	-0.02
intermediate area	0.22	0.24	0.02
thinly populated area	0.33	0.31	-0.02
special code if db100 missing	0.10	0.12	0.02
household type: one person hh	0.07	0.09	0.02
adults. no children	0.25	0.34	0.09
single parents	0.02	0.02	0.00
2 adults and children	0.66	0.55	-0.11
other household type	0.00	0.00	0.00
equivalized pers. income: 1st qart.	0.14	0.14	0.00
2nd quarter	0.20	0.21	0.01
3rd quarter	0.30	0.31	0.01
4th quarter	0.35	0.34	-0.01
rent-to-income ratio	n.a.	n.a.	n.a.
satisfaction with life (0-10)	7.53	7.73	0.19
satisfaction with housing (0-20)	14.99	14.93	-0.06
Age	31.45	29.67	-1.78
No. of years spent in paid work	9.86	8.22	-1.64
Has ever worked (yes)	0.86	0.77	-0.09

Note: EU-SILC UDB, pooled cross-sections 2004-2020. Unweighted frequencies.

Figure A2: Outright and Mortgaged Homeownership



Notes: Own calculations based on pooled cross-sections 2010-2020, using sample weights. All age groups.

Table A8: Main regressions

	(1) owner	(2) owner if 25-34	(3) outright	(4) outright if 25-34	(5) mortgage	(6) mortgage if 25-34
born before 46	-0.0494***		0.00970***		-0.0967***	
babyboomers 1946-64	0.0329***		0.0800***		-0.0687***	
GenX 1965-80	0	0	0	0	0	0
Millennials 1981-97	-0.159***	-0.123***	-0.0452***	-0.0485***	-0.114***	-0.0779***
born after 97	-0.165***		0.00367*		-0.161***	
AT	0	0	0	0	0	0
BE	0.183***	0.163***	0.0721***	-0.0378***	0.115***	0.204***
BG	-0.0779***	-0.107***	0.104***	0.0901***	-0.174***	-0.192***
CH	-0.0551***	-0.139***	-0.215***	-0.0617***	0.168***	-0.0800***
CY	0.0383***	-0.0230***	0.140***	0.0396***	-0.0973***	-0.0836***
CZ	0.176***	0.110***	0.259***	0.121***	-0.0706***	-0.0124*
DE	0.00903***	-0.0628***	-0.0226***	-0.0436***	0.0309***	-0.0376***
DK	0.104***	0.173***	-0.148***	-0.0122**	0.256***	0.147***
EE	0.177***	0.173***	0.272***	0.173***	-0.0746***	0.00242
ES	0.207***	0.122***	0.177***	0.0391***	0.0268***	0.0487***
FI	0.208***	0.218***	0.0689***	-0.0351***	0.142***	0.247***
FR	0.173***	0.126***	0.127***	-0.0345***	0.0521***	0.170***
GR	0.121***	-0.0223***	0.217***	0.0998***	-0.0820***	-0.126***
HR	0.0309***	-0.141***	0.189***	0.0433***	-0.149***	-0.192***
HU	0.246***	0.150***	0.310***	0.180***	-0.0613***	-0.0464***
IE	0.209***	0.0540***	0.146***	-0.0175***	0.0410***	0.0186**
IS	0.329***	0.351***	-0.0332***	-0.00460	0.340***	0.300***
IT	0.122***	0.00728	0.202***	0.0624***	-0.0729***	-0.0719***
LT	0.199***	0.106***	0.374***	0.252***	-0.153***	-0.124***
LU	0.179***	0.129***	0.0776***	-0.0293***	0.108***	0.161***
LV	0.140***	0.0890***	0.260***	0.201***	-0.121***	-0.128***
MT	0.229***	0.188***	0.293***	0.115***	-0.0545***	0.0775***

NL	0.223***	0.306***	-0.161***	-0.0593***	0.380***	0.330***
NO	0.269***	0.353***	-0.0333***	-0.0185***	0.316***	0.377***
PL	0.116***	0.0489***	0.290***	0.211***	-0.131***	-0.129***
PT	0.157***	0.0338***	0.121***	0.0173***	0.0596***	0.0137*
RO	0.207***	0.0499***	0.397***	0.255***	-0.180***	-0.210***
RS	0.0200***	-0.0867***	0.200***	0.0902***	-0.173***	-0.186***
SE	-0.0578***	0.0511***	-0.190***	-0.0481***	0.127***	0.0925***
SI	0.174***	0.0144*	0.289***	0.121***	-0.129***	-0.132***
SK	0.201***	0.0434***	0.344***	0.155***	-0.128***	-0.110***
UK	0.174***	0.139***	0.0630***	-0.0419***	0.0941***	0.133***
male	0	0	0	0	0	0
female	-0.0176***	0.0208***	-0.0138***	0.0105***	-0.00549***	0.00957***
Never married	0	0	0	0	0	0
Married	0.241***	0.257***	0.115***	0.0768***	0.115***	0.169***
Separated	0.0395***	0.0557***	-0.0117***	0.0199***	0.0488***	0.0407***
Widowed	0.124***	0.157***	0.0313***	0.123***	0.0979***	0.0269*
Divorced	0.0368***	0.0626***	-0.0372***	0.0299***	0.0680***	0.0269***
Employed	0	0	0	0	0	0
Unemployed	-0.0866***	-0.0591***	-0.0290***	-0.0140***	-0.0547***	-0.0400***
Retired	-0.0235***	-0.0755***	0.0429***	-0.0109	-0.0638***	-0.0649***
Unable to work (health)	-0.104***	-0.122***	-0.0490***	-0.0445***	-0.0652***	-0.0768***
Student, pupil	-0.120***	-0.122***	0.0115***	-0.0205***	-0.141***	-0.103***
Fulfilling domestic tasks	-0.0295***	-0.0124***	0.0249***	0.0153***	-0.0597***	-0.0301***
Compulsory military or civilian service	-0.125***	-0.0916***	0.0441***	-0.0187	-0.192***	-0.0480***
Other	-0.0679***	-0.0356***	-0.00749***	0.0149***	-0.0611***	-0.0350***
pre-primary	-0.0748***	-0.0388***	-0.0607***	-0.0153**	-0.00977***	-0.0247***
isced1	-0.00863***	-0.0108***	-0.00340***	-0.0100***	-0.00921***	-0.00601*
isced2	0	0	0	0	0	0
isced3	0.0465***	0.0383***	0.0292***	0.00864***	0.0181***	0.0289***
isced 4	0.0747***	0.0541***	0.0486***	0.0196***	0.0298***	0.0357***

tertiary	0.0928***	0.0593***	0.0343***	0.0165***	0.0632***	0.0461***
Any european country except country of residence	0	0	0	0	0	0
Same country as country of residence	0.126***	0.136***	0.0933***	0.0467***	0.0353***	0.0863***
Any other country	-0.0183***	-0.0283***	-0.00608***	-0.0104***	-0.0119***	-0.0143***
densely populated area	-0.0741***	-0.0472***	-0.0511***	-0.0190***	-0.0173***	-0.0241***
intermediate area	-0.0155***	-0.00514***	-0.0270***	-0.0193***	0.00703***	0.0113***
thinly populated area	0	0	0	0	0	0
special code if db100 missing	-0.0632***	-0.0326***	-0.0439***	-0.0137***	-0.00953***	-0.00489
one person hh	0.120***	0.138***	0.0931***	0.0846***	0.0247***	0.0458***
adults , no children	0	0	0	0	0	0
single parents	0.118***	0.0913***	0.0493***	0.0398***	0.0652***	0.0462***
2 adults and children	0.0479***	0.0883***	-0.0416***	-0.00129	0.0914***	0.0952***
other	0.0735***	0.0406**	0.0369***	0.0444**	0.0436***	0.0124
equival. inc. 1. quartile	0	0	0	0	0	0
equival. inc. 2. quartile	0.0249***	0.0376***	-0.00134*	-0.0120***	0.0278***	0.0509***
equival. inc. 3. quartile	0.0560***	0.0786***	0.00126	-0.0192***	0.0585***	0.101***
equival. inc. 4. quartile	0.0842***	0.114***	0.00307***	-0.0257***	0.0849***	0.138***
survey year=2004	0	0				
survey year=2005	-0.0133***	-0.0104**				
survey year=2006	0.00554***	0.0103**				
survey year=2007	0.0143***	0.0299***				
survey year=2008	0.0178***	0.0429***				
survey year=2009	0.0279***	0.0612***				
survey year=2010	0.0396***	0.0768***	0	0	0	0
survey year=2011	0.0387***	0.0784***	-0.000322	-0.00398	0.000404	0.00982***
survey year=2012	0.0368***	0.0908***	-0.00110	0.00175	-0.00119	0.0172***
survey year=2013	0.0402***	0.101***	-0.00312**	0.00457*	0.00352***	0.0246***
survey year=2014	0.0350***	0.102***	-0.00613***	0.00655**	0.000725	0.0241***
survey year=2015	0.0364***	0.108***	-0.00515***	0.0139***	-0.0000783	0.0230***
survey year=2016	0.0357***	0.116***	-0.00441***	0.0188***	-0.00219*	0.0258***

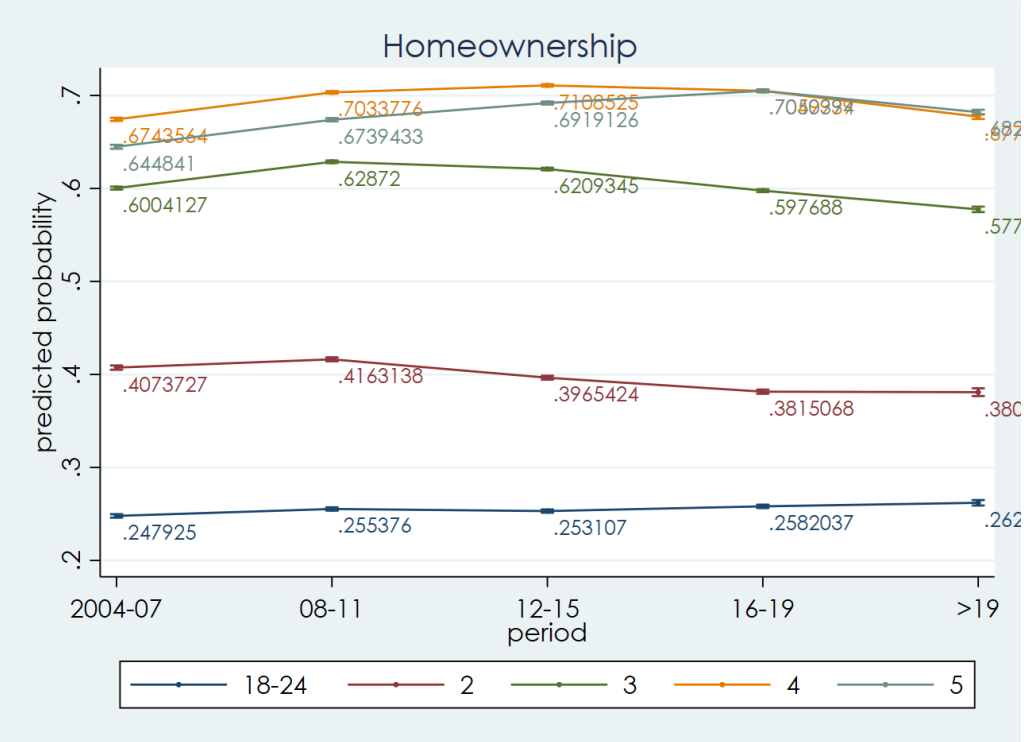
survey year=2017	0.0344***	0.115***	-0.00593***	0.0170***	-0.00308**	0.0259***
survey year=2018	0.0393***	0.118***	-0.00425***	0.0182***	-0.000685	0.0283***
survey year=2019	0.0349***	0.116***	-0.0118***	0.0157***	0.000633	0.0259***
survey year=2020	0.0202***	0.111***	-0.0327***	0.0118***	0.00623***	0.0253***
Age at the end of income reference period	0.00599***		0.00797***		-0.00143***	
Constant	-0.168***	-0.0877***	-0.296***	0.0338***	0.149***	-0.0370***
Observations	7591146	991061	5341921	659848	5341921	659848
Adjusted R^2	0.278	0.198	0.317	0.107	0.264	0.254

Coefficients and 95% confidence intervals from multivariate OLS linear probability models based on pooled cross-sections.

Estimates represent percentage point difference for the likelihood of ownership relative to reference category (0). Observations are individuals.

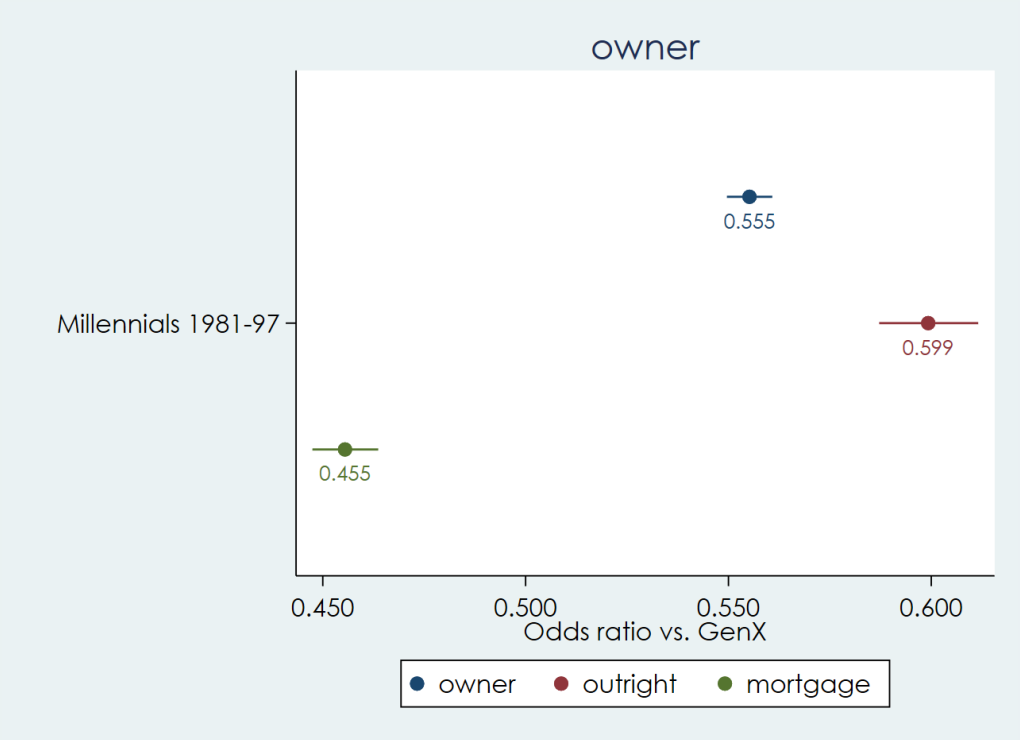
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure A3: Ownership likelihood by age and year (specification without generations)



Notes: Predicted probability (ceteris paribus) of ownership and 95% confidence intervals based on estimates from multivariate OLS linear probability models based on pooled cross-sections 2004-2020 including country fixed effects. For a list of control variables see Table A6. Predictions are based on means (proportions of categories) of continuous (categorical) covariates.

Figure A4: Main model with logit specification (GenX = comparison group)



Notes: Own estimations based on UDB SILC. Coefficients and 95% confidence intervals from logistic regression models based on pooled cross-sections 2004-2020 (mortgage, outright 2010-2020) including country and year fixed effects. For a list of control variables see Table A6. Estimates represent odds ratios of ownership compared to Generation X.