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ABSTRACT

The Long-Term Consequences of a Golden Nest*

We study the role played by the standard of living during childhood on nest leaving. Using data from SHARE, we show empirically that individuals who grew up in a golden nest leave the parental home later and that education only partially mediates this effect. This relationship holds across different cultures, for both males and females, urban and rural residents. We then use a 3-period lifecycle model to show that this behaviour is consistent with standard assumptions on preferences and resources if earnings increase with age, and that habit-forming preferences reinforce the delaying effect of a golden nest on nest leaving.

JEL Classification: D15, J12, J13, J62

Keywords: nest leaving, socio-economic status, habit-forming preferences, intergenerational mobility, SHARE

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Introduction

Why do some children leave the parental home (their "nest") as soon as possible, while others delay their nest leaving to a later age? Is this decision driven by purely cultural factors, or do economic considerations play a role?

Answering these questions is important as the nest-leaving age matters for many economic and social outcomes during life. For example, Billari and Tabellini (2010) have shown that Italians who leave the parental home earlier in life earn a higher income in their mid-30s. When coupled with late family formation and late entrance in the labor market, a late nest-leaving may be associated with lower or postponed fertility and a shorter working life, with negative consequences for the sustainability of pension systems as well as for individual pension wealth accumulation.

While the socio-demographic literature has stressed the role played by cultural factors in explaining nest-leaving patterns (cross-country studies include Aassve at al., 2002, Billari, Philipov and Baizán, 2001, and Kiernan, 1986), the economics literature has investigated the importance of financial resources (Cobb-Clark, 2008, provides a review of the relevant literature). Manacorda and Moretti (2006) have shown that Italian parents have a taste for co-residence and, therefore, bribe their children to stay: a $500 increase in parental income is associated with a 3.5-3.9 percentage points increase in the probability that adult children live with their parents. As emphasized also by the authors, while this result might be true for Italy and other Southern European countries, it is unlikely to hold for countries in central and Northern Europe, which have a different taste for cohabitation. Another strand of the economics literature has looked at role played by the limited access to the housing market for the younger generation (Guiso and Jappelli, 2002; Alessie, Brugiavini and Weber, 2006). Capital and housing market imperfections may indeed delay nest leaving, but one might expect their effect to be stronger for children who grew up in poorer families, who cannot rely on their parents' help to find a suitable accommodation. In fact, Cobb-Clark and Gørgens (2014) show that wealthier parents are more likely to support their young adult children, in terms of both housing and financial gifts.

In this paper we focus in particular on the role played by the standard of living enjoyed during childhood on the nest-leaving decision. We use data from the Survey of Health, Ageing and Retirement in Europe (SHARE) on a representative sample of individuals aged 50 or more who live in 28 European countries plus Israel. The data contain retrospective information on socio-economic conditions at age 10, on age at nest leaving and on other major life events. Our interest lies in the relationship between the age at nest leaving and socio-economic conditions at age ten. We provide strong evidence that individuals who grew up in a "golden nest" leave the parental home later. There is some heterogeneity in the size of the effect across genders and cultures, but the sign and significance of the key estimated coefficient is always the same across different groups. When we look at mechanisms, we find that education only partially mediates the effect of a golden nest on nest-leaving.

We also show that a standard, stripped-down version of the lifecycle model with 3 periods can easily explain why grown, working children of affluent parents leave home later. We assume that grown children who live at the parental home while working pass on their earnings to the parents, and enjoy the same standard of living (consumption) as in their childhood. We also assume that the age profile of earnings is upward sloping, so that income when young is lower than the consumption level enjoyed at the parental home. If the children move out, they can use their current and future earnings to smooth consumption over the whole life cycle. In this context, we show that grown children will move out sooner if the standard of living at the parental home is lower. If, however, the parental home is sufficiently attractive in terms of consumption, they will delay home leaving. We also add habits to our nest-leaving model (see for instance Diaz et al., 2003, and Angelini, 2009) and we show that habit-forming preferences reinforce the dependence of the nest-leaving decision on the childhood consumption level.

The paper is organized as follows. In section 1 we describe the data, drawn from SHARE (the Survey of Health, Ageing and Retirement in Europe). In section 2 we present the econometric methodology and the empirical results. Section 3 describes a three-period model that establishes conditions under which individuals brought up in a golden nest leave the parental home later, for given life-time earnings. Section 4 concludes.

1. The data

We use data from the Survey of Health, Ageing and Retirement in Europe (SHARE), that every two years collects information on the lives of Europeans aged 50 or more. Eight waves of data have been collected so far, and we use data from the third and the seventh waves of SHARE release 7.1.0, that collect retrospective life-course information from all respondents. These data, known as ShareLife data, cover twenty-eight European countries plus Israel. They contain information on several indicators of the standard of living at the age of ten, including the number of rooms per capita, the area where the residence was located (urban or rural), the features of the accommodation (such as the presence of a fixed bath, cold/hot running water supply, inside toilet, central heating) and the occupation of the household's main breadwinner.

The data also report the year each individual left the parental home. This allows us to investigate whether children who grew up in a golden nest leave home later.

The initial sample includes all individuals who have ever done a ShareLife interview (91,774 observations), either in wave 3 or, if they were not yet part of the survey at that time, in wave 7. We keep only those born in 1936-1956 to avoid issues related with selective mortality and obtain a stable gender balance across cohorts (58,922 observations).

We drop individuals not born in the current country of residence to avoid issues of endogenous mobility (4528 observations – sample size falls to 54,394). We also drop records with missing or implausible information on nest leaving age (783 missing observations, 330 with implausibly low - less than 14 - nest-leaving ages), or with missing information on age at first cohabitation (3 observations - implausibly low ages <14 also dropped – 394 obs.). The sample size after all these selections is 53,214.

We further drop individuals with missing information on covariates about childhood (the binding constraint is parental occupation). Because the distribution of socio-economic-status has a long but very thin right tail (see below), we also eliminate outliers in terms of this variable using the criteria suggested by Tukey (1977).[1] This results in dropping 165 observations on the right tail of the distribution, and no observations in the left tail. We are left with 42,184 observations in the final sample.

In Table 1 we show the geographical distribution of the estimation sample and whether a country is present in wave 3 only, wave 7 only, or both.[2]

[1] Define Q1 and Q3 as the 25th and 75th percentiles of the distribution of socio-economic status. We drop observations with a value of SES above Q3+(Q3-Q1) and below Q1-(Q3-Q1). Results are unchanged if we instead include them.

[2] For respondents who participate to both wave 3 and wave 7, the retrospective life-history questions are not asked again in wave 7.

Following Mazzonna (2014) we construct a general index for individuals' socio-economic status (SES) when young using information on individuals' standards of living at age 10. This is by now standard practice using SHARE data, given that – to minimize recall bias – this survey does not ask respondents to provide information on parental education or income when they were young, two standard measures of family background used in the literature on intergenerational transmission (see Björklund and Jäntti, 2011).[3] We construct our index using polychoric principal component analysis to extract the first component from the following four proxies of SES:

- occupation of the main breadwinner (low-tier occupation or higher, according to the 1-digit ISCO-88 coding),
- number of rooms per capita (excluding toilets and kitchens),
- number of books at home (at least one bookshelf or less),
- total number of the following features of the accommodation: presence of a fixed bath, cold or hot running water supply, inside toilet, central heating.

Given that some of these variables are related with institutional factors that are specific to the single countries, such as the provision of central heating or running water to individual dwellings, each variable is de-meaned within country before computing the index.

Consistent with Mazzonna (2014) we obtain only one principal component with an eigenvalue above one, which explains more than forty percent of the total variance. The signs of the scoring coefficients are also consistent: we estimate a negative loading for low parental occupation and positive ones for the other variables (details are available from the authors). As shown in Table 2, where we report descriptive statistics for the key variables used in this study, we standardize the resulting index to have zero mean and unit standard deviation in the full sample. Figure 1 shows its distribution in the full sample, and highlights that the distribution is right-skewed and has a very granular – close-to continuous – support, thereby providing a rich description of the variability in SES. Table A1 in the Appendix reports how the index varies in the full sample (first row) and then in each country.

[3] Information on parental education was collected in two standard waves (wave 5 and 6) but is missing for respondents who took part in wave 3 but did not participate in waves 5 and 6, and is also missing for those respondents who live in countries that joined SHARE in wave 7.

Our dependent variable is the age at nest leaving. This is obtained from the answer to a retrospective question posed as follows: "In which year did you start to live on your own or establish your own household?". Respondents could also answer that they never established their own household. Considering that the youngest interviewees in SHARE are aged 50, to avoid mechanical age effects we cap nest leaving age at 49, and recode the answers of older subjects who report establishing their own household at later ages as "not left by 49". As shown in Table 2, roughly 2 percent of our final sample have not left home by age 49 (934 individuals – not reported in Table 2), and average nest leaving age conditional on nest leaving is 23.13 years (22.08 for females and 24.40 for males). Figure 2 reports the average nest leaving age by country: it ranges between 20 and 25 years and exhibits a stark North-South gap.

As an alternative outcome variable, we use age at first cohabitation with a partner. Close to 96 percent of our sample has ever cohabitated with a partner by age 49, and the conditional average age at first cohabitation is 24 years. In addition, roughly one fourth of nest-leavers did so as singles, while the remaining three-fourths left the parental home to start cohabiting with their first partner (not reported in Table 2). Other variables used in our analysis are gender (55 percent of our sample is female), year of birth (the average respondent was born in 1947), living in a rural area at age 10 (48 percent), having never had siblings (17 percent), living without at least one parent at the age of ten (10 percent), the self-reported level of ability in maths and language at age 10, expressed in terms of being much better, better, about the same, worse or much worse than one's classmates (for both subjects roughly 50 percent report to be about the same, but less than 15 percent report to be worse or much worse than their peers – not reported in Table 2). In some of our analyses, we also explore the mediating effect of educational achievement. As reported in Table 2, average years of education in our sample is close to 11 years.[4] Table 2 also reports the distribution of the sample by wave: close to 17 percent of the sample is present only in wave 3 and 59 percent only in wave 7. The remaining group appears in both waves (but life history information was collected only in wave 3).

2. The effect of SES on nest-leaving age

[4] It is worth noticing that roughly 11 percent of our sample leaves the parental home before completing education. About 75 percent of these individuals have a tertiary degree and 60 percent are women. Instead, only 6 percent of individuals start cohabiting with a partner before finishing education. The composition by gender and educational achievement is very similar.

2.1. Main estimates

The thought experiment we would like to carry out to identify the effect of SES on nest-leaving decisions would be to randomly allocate at birth two identical twins to two families with different levels of socio-economic status, and compare their nest-leaving decisions. We mimic this experiment with our observational data by estimating OLS regressions of the age of nest-leaving on the SES in childhood, controlling for interview wave dummies, living in a rural area at age 10, self-reported ability in math and language (coded as dummies), having never had siblings, not living with at least one parent at age 10, as well as gender, year-of-birth and country dummies. It is very important to control for gender and rural residence as females leave the parental nest sooner than males do (roughly two years), while nest leaving happens later in rural areas (about half a year). Controls for family structure are also important to determine availability of care, while including ability helps overcoming issues related with self-sorting into education due to higher ability and hence postponement of nest-leaving. In some specifications we also include either country-specific linear cohort trends or interactions of cohort, gender and country dummies. These control for country-specific changes in SES and nest-leaving age that took place over time, as well as for changes in institutional factors such as compulsory schooling, divorce or retirement laws that vary by cohort, country and gender. These regressions are estimated on the sample that excludes the 934 individuals who have not left the parental home by age 50. However, we have also estimated an OLS regression model for the probability of nest leaving by age 50 using the same specification adopted in Column 2 of Table 3, and – reassuringly – we found no effect of SES on this probability (the estimated coefficient associated with SES is equal to 0.0006, with a standard error of 0.0007).

Table 3 reports the OLS estimates of the effect of SES in three different specifications, with their heteroscedasticity-robust standard errors in parenthesis. Column 1 includes the individual-level observable controls and country and cohort dummies, Column 2 further includes country-specific linear cohort trends, while Column 3 adds instead the interaction among year-of-birth, country and gender dummies.

Results are remarkably stable across columns. If we focus on column (2), the point estimate implies that a high socio-economic situation in childhood (SES = 1) makes an individual postpone nest leaving by roughly half a year compared to a low SES in childhood (SES = -1).

As a sensitivity check, to avoid issues related with sample selection related to nest-leaving choices, we also use a logistic regression to estimate a discrete duration model for the probability of nest-leaving at any given age, conditional on not having left already. Unlike OLS, this model uses information on all 42,184 individuals, but each individual contributes an observation for each year from age 14 until nest leaving age – or until 49 if the individual has not left yet (right-censored observations) – thus the panel estimation sample has 451,563 observations. In these equations, we use the same set of time-invariant controls as in the OLS regressions, and standard error estimators that are robust to heteroscedasticity.

Table 4 reports estimates of the effect of SES on the odds-ratio of nest leaving for three specifications that differ with respect to the functional form chosen for the baseline hazard and for the set of trends and fixed effects included, as reported at the bottom of each column. All columns include the individual-level observable covariates listed above. We see that in all cases the key parameter is significantly smaller than unity, indicating that children from a higher SES leave the parental nest later.

Figures 3 and 4 show the estimated hazard rate and survival function by SES that result from the model in Column 1 of Table 4. These are average hazard and survival functions by age after assigning SES =-1 (low SES) and SES= 1 (high SES) to all units in the sample. We see that the hazard rate (the nest-leaving probability for those who still live in the parental home) is always higher for low SES individuals, and the difference between groups peaks around age 25.

As an additional sensitivity check, in Table A2 in the Appendix we replicate the OLS analysis of Table 3 but introduce all of the four measures of SES at age 10 that we use to build our index, instead of the index itself. The results highlight how each of the four measures attracts a significant coefficient, thereby suggesting that it is not a single facet of SES – such as the availability of rooms per capita in the parental home, or its facilities –that is driving our results.

2.2. Heterogeneous effects

In order to assess whether our main result in the full population applies in general or is specific to some sub-groups of the population, we have carried out several heterogeneity analyses that we report in Table 5 using our baseline OLS specification reported in Column (2) of Table 3.

Columns (1a) and (1b) show that, while it is true that women are significantly more sensitive than men to SES, the positive effect of SES on nest-leaving age is present for both gender. Similar evidence is reported in Columns (2a) and (2b) for residence in urban vs. rural areas at age 10. Columns (3a), (3b) and (3c) report heterogeneous effects by the main cultural features of the country of residence in childhood. We follow Inglehart and Welzel (2005), and classify the countries in our sample in three groups, as follows:

i) Catholic countries: Austria, Spain, Italy, France, Greece, Belgium, Israel, Ireland, Luxembourg, Portugal, Cyprus and Malta;
ii) Ex-communist countries: the former East Germany, Czech Republic, Poland, Hungary, Slovenia, Estonia, Croatia, Lithuania, Bulgaria, Latvia, Romania, and Slovakia.
iii) Protestant countries: the former West Germany, Sweden, the Netherlands, Denmark, Switzerland and Finland.

We find that, while significantly smaller in magnitude in protestant countries, the positive and significant effect of SES is not relegated to Catholic countries, but is generalizable to the entire set of European countries considered in this study.[5] Therefore, our results do not seem to be driven by the fact that in some cultures parents might see co-residence with their adult children as a normal good and bribe their children to stay at home with them, as in the case of Italy (Manacorda and Moretti, 2006).

In additional analyses – not reported for brevity but available from the authors – we have also estimated heterogeneous effects by order of birth (first-, middle- or last-born sibling – the information is not available for 6,227 observations, mostly belonging to the "wave 7 only" sample, that are dropped for this analysis), having ever had siblings, not living with at least one parent at age 10, and self-rated assessment of whether either of the respondent's parents ever

[5] Given that in some countries there might be regional variation in the prevailing religion, we have also adopted a slightly different definition of culture, that codes the German länder of Bavaria, Rheinland-Palatinate, Nordrhein-Westfalen and Baden-Württenberg, the Southern region of the Netherlands, and the French- and Italian- speaking cantons of Switzerland as Catholics. We obtain comparable results, although the differences between protestant and the other countries are not significant anymore.

harmed him or her physically in childhood. We always find a positive SES effect, and no evidence of significant heterogeneous effects.

2.3. The mediating role of education

At this stage, it becomes important to acknowledge that individuals with high SES are likely to acquire more education, and as a result may choose to postpone family formation in order to conclude education. As a result, we would like to assess what is the mediating role of education in explaining the relationship between SES and nest leaving age.

We proceed following the standard approach to mediation analysis (see Baron and Kenny, 1986) and assess:

1. the impact of SES on years of education;
2. the impact of years of education on nest leaving age, conditional on SES;
3. whether, as a result, the impact of SES on age at nest leaving is entirely explained by its indirect mediating effect on education, or whether there is also a direct link between SES and nest leaving age.

The key empirical difficulty in carrying out this exercise relates to the potential endogeneity of years of education, as there may be omitted unobservable traits that jointly determine both educational achievement and nest leaving age. Here we work under the assumption of selection on observables, that is, we assume that the controls included in our model – that comprise SES, gender, self-reported measures of academic ability in childhood, residence in rural areas, family structure, as well as country and cohort dummies and country-specific linear trends – are able to dissipate such concerns, and the remaining variation in years of education is as good as random.

We assess the sensitivity of our estimates to selection on unobservables using the proportional selection test devised by Oster (2019), following the logic of Altonji et al. (2005). We report two tests, aimed at assessing the degree of proportional selection on unobservables that would be required to drive down to zero:

- i) the estimated effect of education on nest leaving age;
- ii) the direct effect of SES on nest leaving age.

In carrying out both tests, we follow the suggestions of Oster, 2019, and set the value or Rmax – the maximum achievable R-squared for the controlled regression – to 1.3 times the value of the R-squared of the model that includes all the observable controls.

The second test is especially relevant for our case, as we are more interested in the mediating effect of education than on its direct effect. Following Baron and Kenny (1986), the total effect of SES on nest leaving age can be written as the sum of a direct and an indirect effect. The indirect effect is the one mediated by education, and is obtained as the product between the effect of SES on education and the effect of years of education on nest leaving age. As a result, the direct effect would be zero if the effect of education on nest leaving age was large enough as to make the indirect effect of SES on nest leaving age equal to the total effect, for a given effect on SES on years of education. Hence, the effect of years of education on age at nest leaving that would lead the direct effect of SES on nest leaving age to be equal to zero is given by the ratio between the total effect of SES on nest leaving age and the effect of SES on years of education.

Results of our mediation analysis are reported in Table 6. Column (1) reports the total effect of SES obtained from our baseline specification in Column (2) of Table 3. Column (2) uses the same empirical specification to show that high-SES individuals obtain more years of education. Column (3) displays the effect of years of education on the age at nest leaving conditional on SES and the other additional controls included in our baseline specification. This effect is positive and significant, with one additional year of education leading individuals to postpone nest leaving by 0.07 years –roughly one month. In addition, the estimated value of the coefficient of proportional selection on unobservables that would be required to drive down to zero the estimated effect of education in Column (3) is larger than one. One is the threshold suggested by Altonji et al. (2005) to rule out that the bias due to omitted unobservables is strong enough as to entirely explain away our estimated effect.

The indirect effect of SES on nest leaving age is obtained as the product of the effect of SES on years of education in Column (2) and the effect of years on education on age at nest leaving in Column (3), is equal to 1.012*0.068= 0.069 years for a one standard deviation change is SES and is statistically significant ($p<0.01$, not reported in the Table and obtained after joint estimation of the three equations).

Table 6 also shows that the direct effect of SES, reported in Column (3), survives even after taking into account the mediating effect of education. However, as reported in the Table, this direct effect is also significantly smaller than the total one reported in Column (1), suggesting that education partially mediates the effect of SES on age at nest leaving. Furthermore, the estimated value of the coefficient of proportional selection on unobservables that would be required to drive down to zero the direct effect of SES on nest leaving age is negative. This can only happen if the bias in the effect of education on nest-leaving age due to the omission of unobservables is of opposite sign than the bias due to the omission of observables to zero out the direct effect, an implausible situation.

A remaining concern about the mediating role of education has to do with timing, as some individuals may have answered the question on nest leaving age by reporting the year when they left home to attend university elsewhere. Although this pattern is not very common in our data (11%), if this was the case, then we might be picking up an effect of education on nest leaving age that is smaller than it should be, as more educated individuals would report leaving home earlier than they should.

To test the robustness of our conclusions, in Table A3 in the Appendix we replicate the exercise we have carried out in Table 6 using age at first cohabitation as the dependent variable, under the reasonable assumption that the answers to this question should be less affected by the concerns mentioned above. Reassuringly, results are wholly consistent. If anything, we obtain larger values of the coefficients for proportional selection, lending greater support to our empirical strategy.

3. The model and simulation results

To provide an economic explanation of the very robust finding that a golden nest delays nest leaving, we consider a life-cycle model where the young base their nest-leaving decision on the utility they enjoy during their lifetime.[6] To keep things simple, we consider a 3-period life-cycle model. Period 0 is childhood and is predetermined: the consumption level enjoyed in childhood ($\bar{C}$) is outside the control of the individual. In period 1, the young person can choose whether to stay at home with her parents or to leave. If she stays, she shares with them her

[6] Becker et al., 2004, develop a similar model, but also take into consideration the role of income insecurity as well as parental utility and altruism.

earnings (she passes on to her parents any income she receives), and consumes the same as in her childhood ($\bar{C}$). If she moves out, she smooths her resources across all three periods (1, 2 and 3). In period 2, we assume that no child remains with her parents.

In this context, individuals always leave home in period 1 if their income in that period is higher than their childhood consumption level ($\bar{C}$). This is not surprising, because by nest leaving they enjoy higher lifetime resources and the freedom to optimise over their whole adulthood life (three periods).

If their income in period 1 is instead lower than their childhood consumption, life time resources would be higher if they stayed with their parents in period 1. However, nest-leaving may still be attractive if their period 1 income is just below their childhood consumption, because of the benefit of consumption smoothing that nest-leaving entails. A numerical example helps explain why.

Assume the interest rate equals the time preference parameter, so the optimal plan is characterised by the same consumption level across periods. Assume the utility function is well behaved (we use the CARA function in our numerical simulations).

Suppose income is increasing with age – it is 0.5 in period 1, 1 in period 2 and 1.5 in period 3. If $\bar{C}$ is 0.6, then nest-leaving is optimal, because the individual can consume 1 in all three periods (she would consume 0.6 in period 1, 1.25 in periods 2 and 3 if she stayed with her parents in period 1). However, if $\bar{C}$ is 0.9 (a golden nest!) the nest-leaving consumption profile of (1, 1, 1) is less attractive than the home-staying profile of (0.9, 1.25, 1.25) for sensible preference parameters.

We also add habits to our nest-leaving model, as in Angelini (2009). We show that habits reinforce the dependence of the nest-leaving decision on the childhood consumption level. Period utility is defined over current period and previous period consumption:

$$U_t = U(C_t, C_{t-1})$$

A commonly adopted specification is:

$$U_t = U(C_t - \gamma C_{t-1})$$

where $0 \leq \gamma < 1$ denotes the force of habits and U_t could be of the CARA type as in Angelini (2009), that is:

$$U_t = -\frac{1}{\theta} e^{-\theta(C_t - \gamma C_{t-1})} \tag{1}$$

where θ is the absolute risk aversion parameter.

Let us define NL=1 if the consumer leaves the parental nest in period 1, NL=0 if the consumer stays with her parents in period 1 and leaves the parental nest one year later.

Let the time preference discount factor be β and the gross interest rate be R, and assume that the consumer can freely lend and borrow at that interest rate once she leaves the parental home. The optimization problem then is:

$$\max_{C_1, C_2, C_3;\, NL} \sum_{t=1}^{3} \beta^{t-1} U_t$$

Subject to:

$$C_0 = \bar{C}$$

$$C_1 = \bar{C} \; if \; NL = 0$$

$$C_1 = Y_1 - A_1 \;\; if \; NL = 1$$

$$C_2 = Y_2 - A_2 \;\; if \; NL = 0$$

$$C_2 = Y_2 - A_2 \; + RA_1 \;\; if \; NL = 1$$

$$C_3 = Y_3 + RA_2 \;\; if \; NL = 0.$$

The consumer leaves the parental home in period 1 if her lifetime utility is higher when NL=1; she leaves in period 2 otherwise. The issue is whether NL=1 is more likely if $\bar{C}$ is high or low for given income at periods 1, 2 and 3. We can work out the analytical solution if we adopt the CARA specification as in equation (1), and use it to calculate and compare the utility of both nest-leaving and home-staying strategies.

It is worth stressing that the way the constraints are written, the co-habiting child pays her entire period 1 income to her parents in exchange for enjoying a given consumption level, $\bar{C}$.

This model predicts that, for a given, common income profile, golden nest individuals are less likely to move out in period 2 than the less fortunate.

In Figure 5 we show the utility gain associated to nest-leaving (rather than staying) when income takes values 0.5 in period 1, 1 in period 2 and 1.5 in period 3. The interest rate and the time preference parameter are 2% (hence: $R = 1.02, \beta = \frac{1}{1.02}$). The absolute risk aversion parameter, θ, is set equal to 2. We consider how the utility gain changes as a function of $\bar{C}$, that is allowed to vary between 0.5 and 1, and of the force of habits. The habits parameter, γ, is allowed to vary between 0 (standard model) and 0.9 (very strong habit dependence).

We see that the utility gain from nest leaving is a decreasing function of both $\bar{C}$ and γ: nest leaving becomes less appealing the higher the consumption enjoyed at the parental home and the stronger the habit. The utility gain from nest leaving is always positive for the lowest values of $\bar{C}$, implying that the individual prefers leaving the parental nest in period 1 if the standard of living at the parental home is sufficiently low. However, there is a $\bar{C}$ high enough that nest-leaving is delayed: in the model without habits this happens for $\bar{C} = .75$. When habits are particularly strong (γ =.9) individuals prefer staying in the parental home even if $\bar{C}$ is as low as 0.65. We obtain similar results for a less steeply ascending income path (if income takes values 0.8 in period 1, 1 in period 2 and 1.2 in period 3): in that case nest leaving is more frequently the preferred option, but the utility gain shown above is still a decreasing function of $\bar{C}$ and γ. We find that changes of the risk aversion parameter and the interest are of little consequence as far as the nest-leaving decision is concerned.

4. Conclusions

We have used data covering twenty-eight European countries plus Israel to show empirically that individuals who grew up in a golden nest leave the parental home later. This result is remarkable for two reasons. First, it contradicts the commonly held view (in the socio-demographic literature) that the nest leaving decision is mostly determined by cultural factors. Secondly, it also contradicts the commonly maintained hypothesis (typical of the economics literature) that capital and housing markets imperfections explain why young people find it hard to leave the parental home. If culture was the driving force, there should not be a similar SES gradient across countries that markedly differ in their cultural background. If limited access to credit or cheap housing was the key issue, we should expect poorer children to delay nest-leaving, not richer ones.

We have then solved a 3-period intertemporal optimization model to show under what conditions this behaviour is consistent with standard assumptions on preferences and resources. Our key result is that a standard life-cycle model without borrowing constraints predicts this type of behaviour if earnings increase with age and the standard of living in the parental home is higher than the income earned in the early stage of the life cycle. We also find that habit-forming preferences reinforce the delaying effect of a golden nest on nest leaving, because they make drops in the standard of living particularly unattractive to the consumer.

A final implication of our results is that, to the extent that early nest leaving has positive longer-run consequences on the economic welfare of children (see e.g. Billari and Tabellini, 2008) the earlier nest leaving by children of deprived families may contribute to increase intergenerational mobility in income and wealth.

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Tables and Figures

Table 1. Distribution of observations by country and wave

Country	Observations	%	Waves
Austria	1,878	4.45	w3 & w7
Germany	2,356	5.59	w3 & w7
Sweden	2,436	5.77	w3 & w7
Netherlands	1,413	3.35	Only w3
Spain	2,708	6.42	w3 & w7
Italy	3,200	7.59	w3 & w7
France	2,110	5.00	w3 & w7
Denmark	1,964	4.66	w3 & w7
Greece	2,340	5.55	w3 & w7
Switzerland	1,377	3.26	w3 & w7
Belgium	2,916	6.91	w3 & w7
Israel	605	1.43	Only w3
Czech Republic	3,121	7.40	w3 & w7
Poland	2,827	6.70	w3 & w7
Ireland	477	1.13	Only w3
Luxembourg	411	0.97	Only w7
Hungary	473	1.12	Only w7
Portugal	639	1.51	Only w7
Slovenia	1,736	4.12	Only w7
Estonia	1,756	4.16	Only w7
Croatia	1,076	2.55	Only w7
Lithuania	393	0.93	Only w7
Bulgaria	974	2.31	Only w7
Cyprus	450	1.07	Only w7
Finland	812	1.92	Only w7
Latvia	208	0.49	Only w7
Malta	408	0.97	Only w7
Romania	386	0.92	Only w7
Slovakia	734	1.74	Only w7
Total	41,294	100.00	

Table 2. Descriptive statistics

Variable	Observations	Mean	Std. Dev
Socio-economic status at age 10	42,184	0	1
Left home by age 49	42,184	0.98	0.15
Age at nest leaving	41,252	23.13	4.82
Cohabited with a partner by age 49	42,184	0.96	0.19
Age at first cohabitation	40,527	23.88	4.54
Female	42,184	0.55	0.50
Year of birth	42,184	1947	5.76
Lived in rural area at age 10	42,184	0.47	0.50
Never had siblings	42,184	0.17	0.38
Did not live with at least one parent at age 10	42,184	0.10	0.31
Years of education	42,184	11.00	4.07
Present only in wave 3	42,184	0.18	0.38
Present only in wave 7	42,184	0.59	0.49

Notes: the omitted wave group is “present in both waves”.

Table 3. OLS regressions – _dependent variable: nest-leaving age

	(1)	(2)	(3)
Socio-economic status at age 10	0.269***	0.274***	0.276***
	(0.024)	(0.024)	(0.024)
Mean dependent variable	23.13	23.13	23.13
Observations	41,252	41,252	41,252
Individual level controls	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	No
Country fixed effects	Yes	Yes	No
Country-specific cohort trends	No	Yes	No
Country-by-cohort-by-gender fixed effects	No	No	Yes

Notes: the dependent variable is age at nest leaving. Each column reports the coefficient on Socio-economic status at age 10 from a different OLS regression. Socio-economic status at age 10 is standardized to have zero mean and unit standard deviation in the full sample. All models include the following individual level controls: dummies for gender, self-rated math and language ability, residence in a rural area at age 10, having never had siblings, not living with at least one parent at age 10, wave dummies. The fixed effects and trends indicated at the bottom of each column are also included. The estimation sample excludes 932 individuals who have not established their own household by age 50. Heteroscedasticity robust standard errors in parenthesis. ***: p<0.001, **: p<0.05, *: p<0.1.

Table 4. Logit discrete duration model – dependent variable: nest-leaving in the current period

	(1)	(2)	(4)
Socio-economic status at age 10	0.942***	0.942***	0.937***
	(0.006)	(0.006)	(0.007)
Observations	451,563	451,563	451,563
Individuals	42,184	42,184	42,184
Individual level controls	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	No
Country fixed effects	Yes	Yes	No
Country-specific cohort trends	Yes	Yes	No
Country-by-cohort-by-gender fixed effects	No	No	Yes
Baseline hazard:			
Quartic	Yes	No	No
Non-parametric	No	Yes	Yes

Notes: discrete duration logistic regression model. The data is structured as a panel with as many observations for each individuals as the years between age 14 and the minimum between nest leaving age and age 49. The dependent variable is a dummy equal to one if the individual left the parental home in the current period, and to zero otherwise. Each column reports the effect of socio-economic status at age 10 on the odds-ratio of leaving the nest in the current year. Socio-economic status at age 10 is standardized to have zero mean and unit standard deviation in the full sample. All models include the following individual level controls: dummies for gender, self-rated math and language ability, residence in a rural area at age 10, having never had siblings, not living with at least one parent at age 10, wave dummies. The fixed effects and trends indicated at the bottom of each column are also included. The functional form adopted for the baseline hazard function is also reported at the bottom of each column. Heteroscedasticity robust standard errors in parenthesis. ***: p<0.001, **: p<0.05, *: p<0.1.

Table 5. OLS regressions by gender, rural and urban areas, and culture of countries – dependent variable: nest-leaving age

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(3c)
	Gender		Childhood area		Culture of the country		
	Female	Male	Rural	Urban	Catholic	Ex-communist	Protestant
Socio-economic status at age 10	0.373***	0.155***	0.197***	0.312***	0.310***	0.298***	0.185***
	(0.030)	(0.037)	(0.037)	(0.031)	(0.036)	(0.046)	(0.040)
H0: female = male	P<0.01						
H0: rural = urban			P=0.02				
H0: catholic = ex-communist = protestant						P=0.04	
H0: catholic = ex-communist						P=0.83	
H0: catholic = protestant						P=0.02	
H0: ex-communist = protestant						P=0.06	
Observations	22,632	18,620	19,672	21,580	17,629	14,114	9,509
Individual-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-specific cohort trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-by-cohort-by-gender fixed effects	No	No	No	No	No	No	No

Notes: the dependent variable is age at nest leaving. The sub-sample used is defined at the top of each column. Each column reports the coefficient on socio-economic status at age 10 from a different OLS regression. Socio-economic status at age 10 is standardized to have zero mean and unit standard deviation in the full sample. All models include the following individual level controls: dummies for gender, self-rated math and language ability, residence in a rural area at age 10, having never had siblings, not living with at least one parent at age 10, wave dummies. The fixed effects and trends indicated at the bottom of each column are also included. The estimation sample excludes 932 individuals who have not established their own household by age 50. Heteroscedasticity robust standard errors in parenthesis. ***: p<0.001, **: p<0.05, *: p<0.1.

Table 6. OLS regressions of the mediating role of education – dependent variable: nest-leaving age

	(1)	(2)	(3)
Dependent variable	Age at nest leaving	Years of education	Age at nest leaving
Socio-economic status at age 10	0.274***	1.012***	0.192***
	(0.024)	(0.019)	(0.025)
Years of education			0.068***
			(0.007)
Mean dependent variable	23.13	11.00	23.13
H0: effect of SES is equal in (1) and (3)			P<0.01
Proportional selection coefficient (δ) for zero effect of years of education			δ=1.04
Proportional selection coefficient (δ) for zero direct effect of SES			δ=-13.26
Observations	41,252	41,252	41,252
Individual-level controls	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Country-specific cohort trends	Yes	Yes	Yes
Country-by-cohort-by-gender fixed effects	No	No	No

Notes: the dependent variable is age at nest leaving in Column 1 and 3 and years of education in Column 2. Each column reports the coefficient on socio-economic status at age 10 – and years of education in Column 3 – from a different OLS regression. Socio-economic status at age 10 is standardized to have zero mean and unit standard deviation in the full sample. All models include the following individual level controls: dummies for gender, self-rated math and language ability, residence in a rural area at age 10, having never had siblings, not living with at least one parent at age 10, wave dummies. The fixed effects and trends indicated at the bottom of each column are also included. The estimation sample excludes 932 individuals who have not established their own household by age 50. Heteroscedasticity robust standard errors in parenthesis. ***: p<0.001, **: p<0.05, *: p<0.1.

Figure 1. Kernel estimate of the distribution of the SES indicator in the full sample

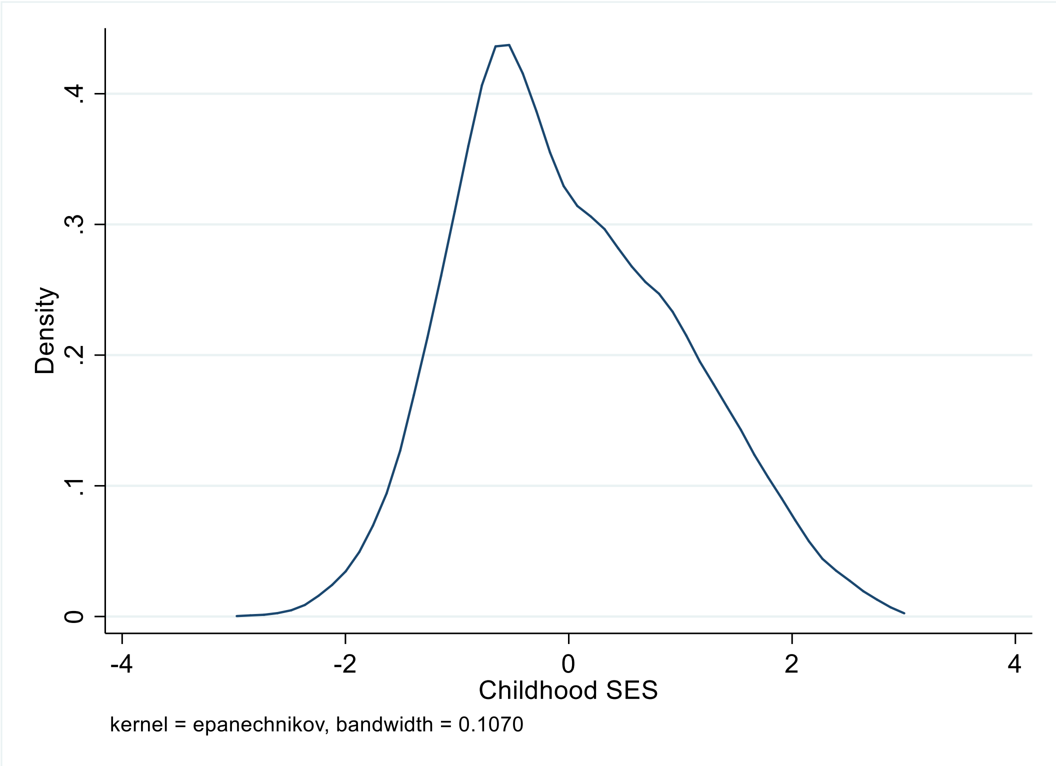


Figure 2. Distribution of the average age at nest leaving across countries.

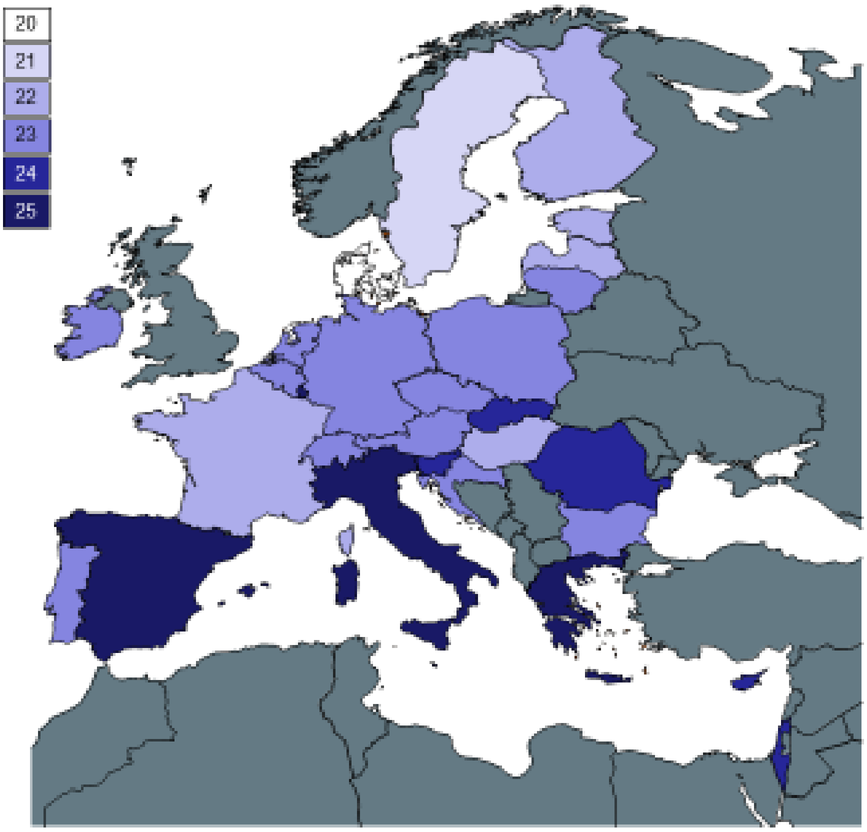
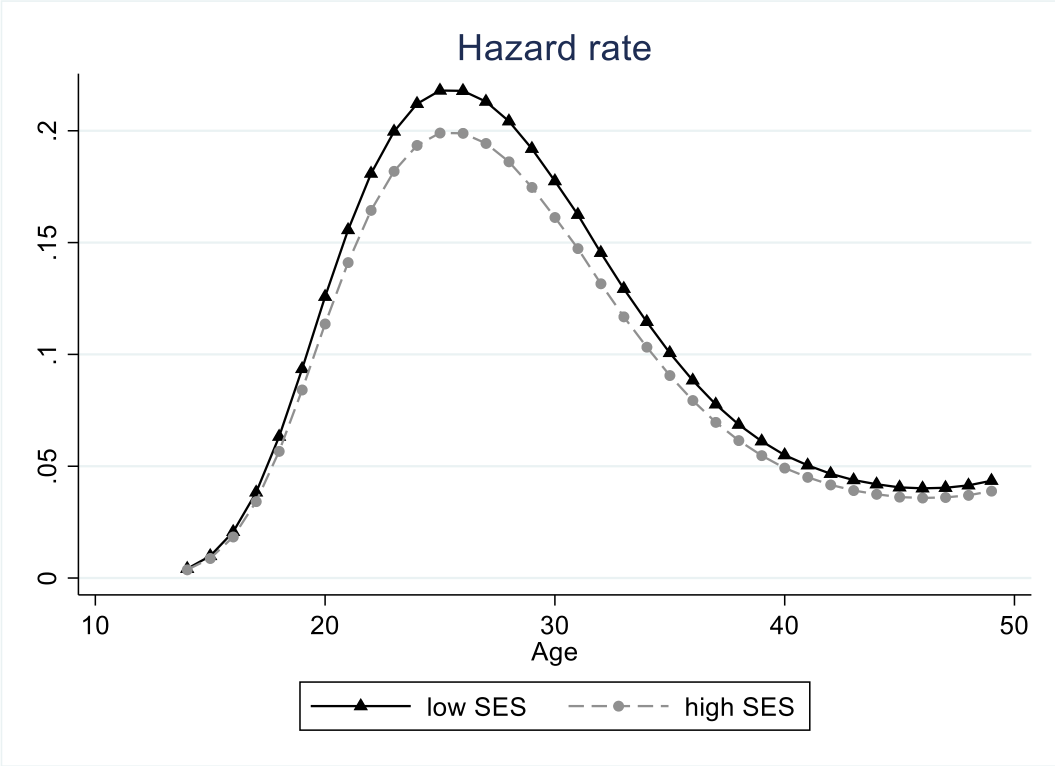
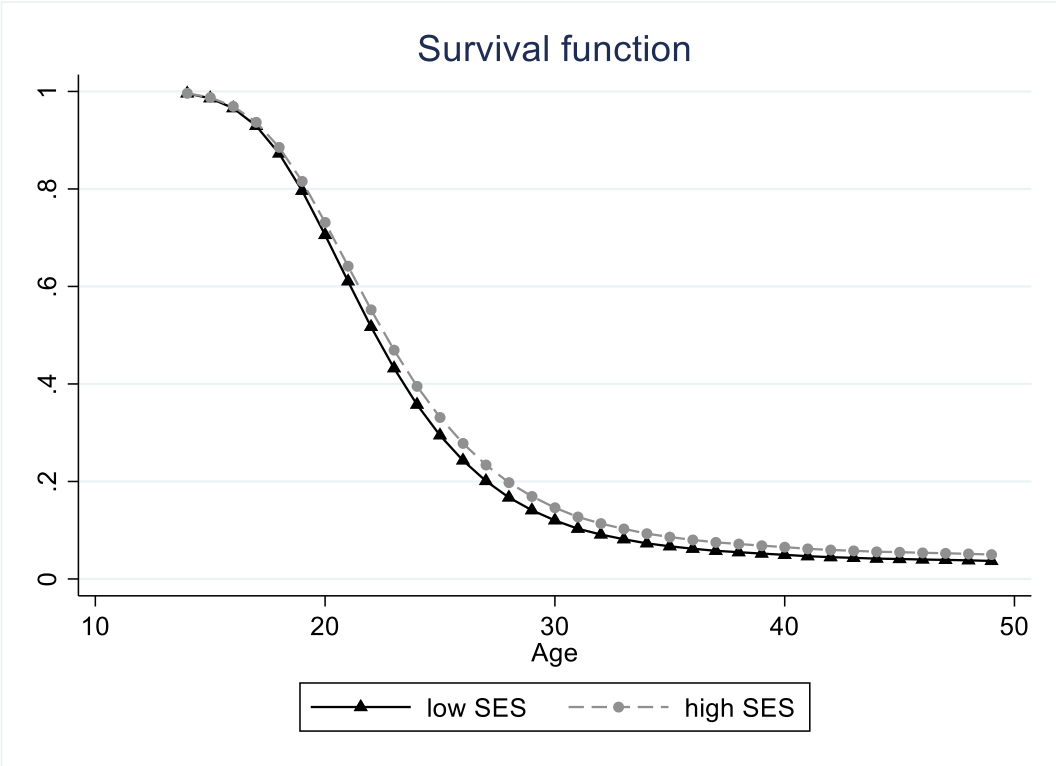


Figure 3. Estimated hazard rate by childhood SES



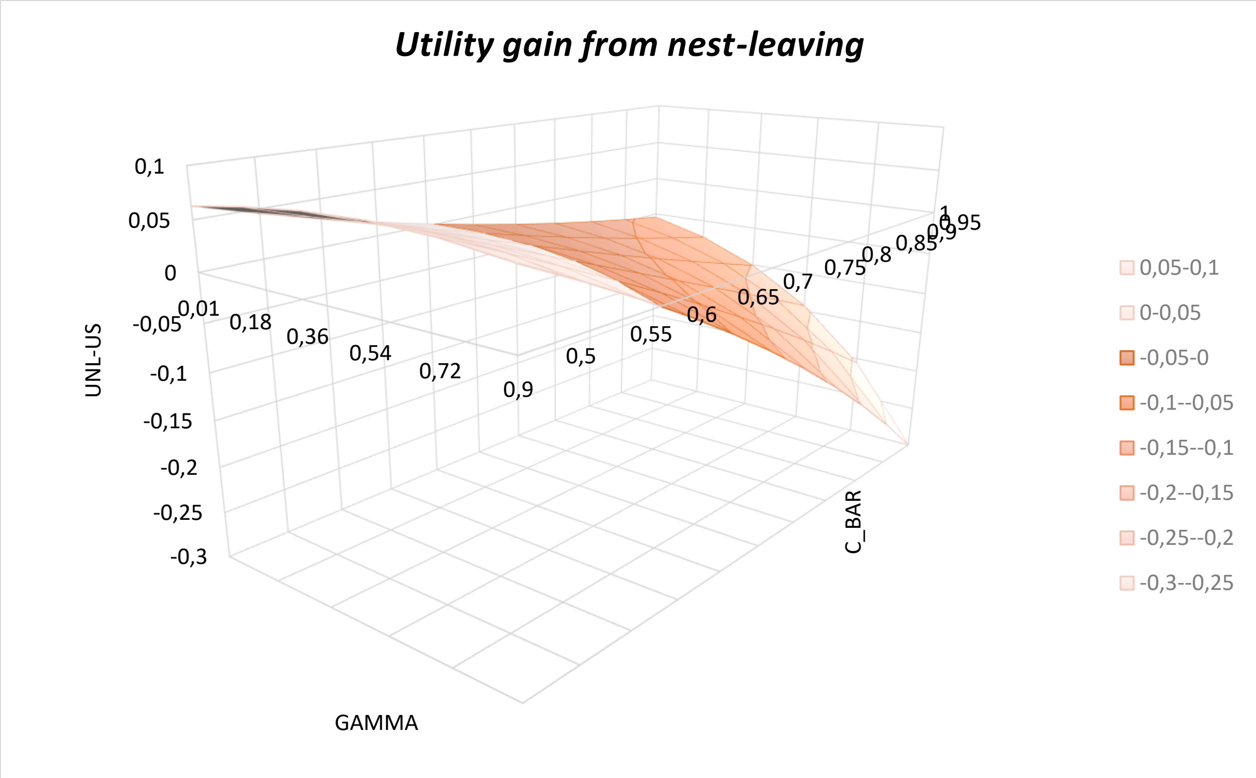
Notes: estimates obtained from the model in Column (1) of Table 4. The two curves are estimated after assigning SES =-1 (low SES) and SES= 1 (high SES) to all units in the sample.

Figure 4. Survival function by childhood SES



Notes: estimates obtained from the model in Column (1) of Table 4. The two curves are estimated after assigning SES =-1 (low SES) and SES= 1 (high SES) to all units in the sample.

Figure 5. Utility gain from nest-leaving as a function of $\overline{C}$ and γ.



Appendix
Additional tables and figures

Table A1 – SES distribution by country

Country	Mean	Std.Dev	Median	Minimum	Maximum
Austria	-0.01	1.11	-0.11	-1.92	2.89
Germany	0.00	1.04	-0.06	-2.26	2.89
Sweden	0.00	1.08	0.15	-2.87	2.89
Netherlands	0.01	0.90	-0.02	-2.15	2.55
Spain	0.01	0.93	-0.16	-1.70	2.85
Italy	-0.01	0.96	-0.17	-1.63	2.90
France	-0.01	1.11	-0.25	-2.09	2.84
Denmark	0.00	1.13	0.11	-2.70	2.84
Greece	0.01	0.84	-0.22	-1.41	2.87
Switzerland	0.01	1.06	0.07	-2.56	2.73
Belgium	-0.01	1.16	-0.17	-2.22	2.87
Israel	0.00	1.15	0.25	-2.29	2.58
Czech Republic	0.01	1.01	0.08	-2.25	2.72
Poland	0.00	0.90	-0.29	-1.19	2.89
Ireland	-0.00	1.18	-0.19	-2.08	2.65
Luxembourg	-0.02	1.07	-0.02	-2.29	2.72
Hungary	0.01	0.96	-0.10	-1.35	2.70
Portugal	-0.02	0.90	-0.29	-1.30	2.86
Slovenia	-0.00	0.89	-0.25	-1.38	2.75
Estonia	0.01	0.92	-0.08	-1.51	2.85
Croatia	-0.01	0.86	-0.32	-1.12	2.69
Lithuania	-0.00	0.77	-0.27	-1.07	2.67
Bulgaria	0.00	0.93	-0.20	-1.61	2.81
Cyprus	-0.01	0.67	-0.19	-0.94	2.72
Finland	-0.01	1.04	-0.32	-1.53	2.88
Latvia	0.01	1.00	-0.21	-1.59	2.75
Malta	-0.02	0.98	-0.21	-1.83	2.64
Romania	0.01	0.69	-0.16	-0.91	2.83
Slovakia	0.01	1.06	-0.09	-1.90	2.50

Table A2. OLS regressions – four measures of SES at age 10 - dependent variable: nest-leaving age

	(1)	(2)	(3)
Breadwinner has a low-tier occupation	-0.173***	-0.177***	-0.172***
	(0.045)	(0.045)	(0.045)
At least one bookshelf in the house	0.126**	0.128**	0.143***
	(0.053)	(0.053)	(0.053)
Number of rooms per capita	0.297***	0.292***	0.299***
	(0.075)	(0.075)	(0.076)
Number of facilities of the accommodation	0.153***	0.159***	0.154***
	(0.021)	(0.021)	(0.021)
Average dependent variable	23.13	23.13	23.13
Observations	41,252	41,252	41,252
Individual level controls	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	No
Country fixed effects	Yes	Yes	No
Country-specific cohort trends	No	Yes	No
Country-by-cohort-by-gender fixed effects	No	No	Yes

Notes: the dependent variable is age at nest leaving. Each column reports the coefficient on our four measures of SES at age 10 from a different OLS regression. All models include the following individual level controls: dummies for gender, self-rated math and language ability, residence in a rural area at age 10, having never had siblings, not living with at least one parent at age 10, wave dummies. The fixed effects and trends indicated at the bottom of each column are also included. The estimation sample excludes 932 individuals who have not established their own household by age 50. Heteroscedasticity robust standard errors in parenthesis. ***: p<0.001, **: p<0.05, *: p<0.1.

Table A3. OLS regressions of the mediating role of education – dependent variable: first cohabitation age

	(1)	(2)	(3)
Dependent variable	Age at first cohabitation	Years of education	Age at first cohabitation
Socio-economic status at age 10	0.453***	1.007***	0.289***
	(0.023)	(0.019)	(0.024)
Years of education			0.164***
			(0.007)
Mean dependent variable	23.88	11.00	23.88
H0: effect of SES is equal in (1) and (3)			P<0.01
Proportional selection coefficient (δ) for zero effect of years of education			δ=2.19
Proportional selection coefficient (δ) for zero direct effect of SES			δ=-42.89
Observations	40,527	40,527	40,527
Individual-level controls	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Country-specific cohort trends	Yes	Yes	Yes
Country-by-cohort-by-gender fixed effects	No	No	No

Notes: the dependent variable is age at first cohabitation leaving in Column 1 and 3 and years of education in Column 2. Each column reports the coefficient on socio-economic status at age 10 – and years of education in Column 3 – from a different OLS regression. Socio-economic status at age 10 is standardized to have zero mean and unit standard deviation in the full sample. All models include the following individual level controls: dummies for gender, self-rated math and language ability, residence in a rural area at age 10, having never had siblings, not living with at least one parent at age 10, wave dummies. The fixed effects and trends indicated at the bottom of each column are also included. The estimation sample excludes 1657 individuals who have not cohabited with a partner by age 50. Heteroscedasticity robust standard errors in parenthesis. ***: p<0.001, **: p<0.05, *: p<0.1.