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Youth living arrangements and household employment deprivation: Evidence from Spain

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Abstract

Objective: We study the role of employment deprivation and severe poverty at the household level on youth living arrangements in Spain in three different business cycle periods.

Background: Previous evidence has shown that recessions in Southern European countries make young individuals turn to their families for financial protection. Most analyses assume that these cohabiting decisions are only related to the young individual's employment status while other household members' employment deprivation is irrelevant.

Method: We use information from the Quarterly Labour Force Survey between 2005 and 2017 and a very flexible indicator to measure the dimension of employment deprivation at the household level and estimate its role on the probability of being emancipated with a linear probability model. To avoid reverse causation, we also estimate two seemingly unrelated regressions of the probability of cohabiting with parents and the dimension of household employment deprivation.

Results: Our results confirm that the Great Recession increased the probability of parental co-habitation, even if with some delay in relation to the business cycle. We reject the assumption about the irrelevance of other household member's employment deprivation on youth cohabitation decisions because its dimension determines them.

Conclusion: Policies aiming to improve emancipation should not only increase youth labour market opportunities but provide either more employment hours or more income transfers to those living in households where young individuals live.

Key words: youth financial protection, parental cohabitation, hours of work, severe poverty, business cycle

1. Introduction

The Spanish youth labor market is one of the most precarious in the European Union (EU), with a large number of low-wage workers (Blázquez, 2008; OECD, 2017), and many fixed-term and undesired part-time contracts (García-Serrano & Malo, 2013; OECD, 2010). During the Great Recession, the situation worsened and by the end of 2014 a 38 percent of all under 30 years of age were unemployed. Moreover, approximately half of the employed held fixed-term contracts, and almost 30 percent were in an undesired part-time job (Cebrián & Moreno, 2018). The last two main labor market reforms, launched in 2010 and 2012, tried to introduce mechanisms to prevent worker vulnerability and social exclusion, with young people as the main target group. However, up to now all implemented reforms appear largely ineffective in reducing precarity among young: employed workers

As Aparicio-Fenoll & Oppedisano (2015) note, the economic literature has consistently shown that perceived job insecurity, limited access to credit markets, high housing prices, and low lifetime earnings play an important role in delaying youth emancipation (Becker et al., 2010). Some studies have showed that during recessions there is not only a delay in emancipation but also a return of part of the youth to the family nest to avoid poverty. This effect has been documented for various European countries and for the United States (US) since 2008 (Ceballos-Santamaría & Villanueva, 2014; Fry, 2015; Matsudaira, 2016). This phenomenon refers to the increase in "doubled-up households" or the existence of a "boomerang generation": those who leave the parental home before a crisis and return to it when their economic circumstances worsen.

Ayllón (2009) found that the reduction of poverty risk among non-emancipated youth in Spain from 1980 to 2005 occurred due to an increasing number of Spaniards living with two employed parents. Thus, emancipation is also delayed when young people live in households that can afford it. She also found that when young workers are employed, their salaries play key protective roles for other co-residing family members by significantly reducing the family's poverty risk. This "adapting to circumstances" of both young individuals and their families implies the use of co-residence as a safety net for all household members who need it. These results are in line with a variety of previous evidence on Spain's historical reliance upon the family as an essential institution for the wellbeing of individuals who are most in need in times of economic difficulty (Reher, 1998; CJE, 2018).

So far, the Great Recession (and foreseeably the current COVID-19 crisis) has pushed Spanish young individuals to face extremely adverse economic conditions. If other author's results hold, recessions should imply that Spanish young individuals turn to their families in search of financial protection. Therefore, previously strong family ties between the young and their families should be reinforced, and emancipation should be delayed more than ever before.

The purpose of this paper is twofold. First, we want to check if analysing more than a decade (2005-2017) and three different business cycle periods we find changes in youth living arrangements that support the result of an increase in youth emancipation as Ahn & Sanchez-Marcos (2017) sustain or, on the contrary, youth living arrangements patterns are similar to those in other crises: increasing their co-habitation probability as difficulties grow (Martínez-Granado & Ruiz-Castillo, 2002; Ayllón, 2009). We refer to living

arrangements as the situation where individuals live independently as opposed to living with their parents. Thus, those who return to the parental home during a recession period are included within the non-emancipated group. Second, and most importantly, we want to deepen the study of the relationship between young individuals' living arrangements and other household members' employment situation. Taking advantage of the detailed information that a large quarterly dataset can offer (Spanish Labor Force Survey, EPA), we will study the role of employment deprivation and severe poverty at the household level on youth economic outcomes along three different business cycle periods: a boom (2005-2008), a subsequent deep recession (2009-2013) and a recovery period (2014-2017).

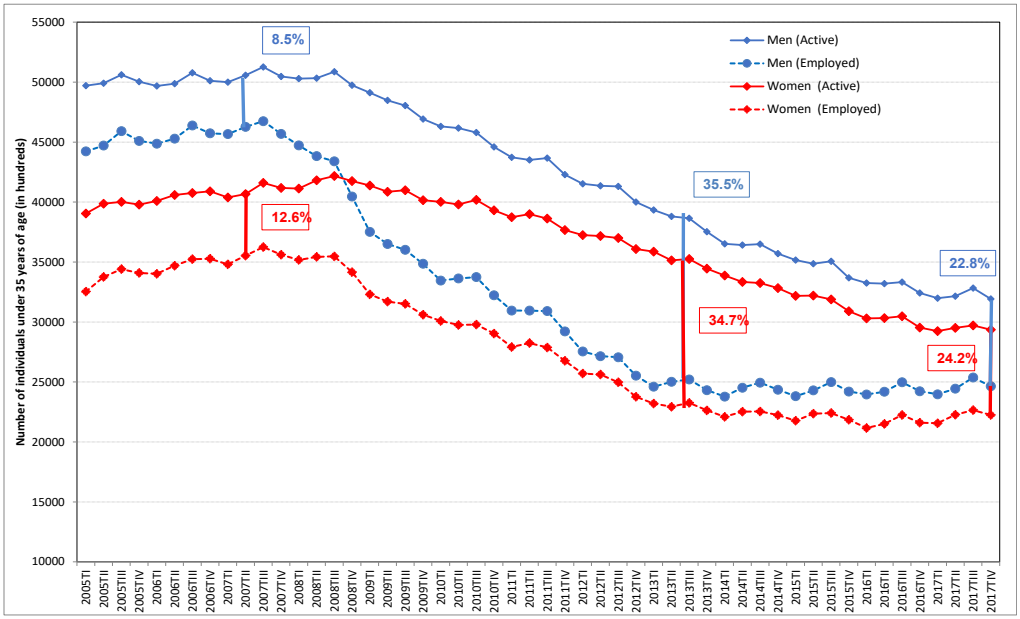
The main contribution of the paper is to test if the theoretical assumption about the irrelevance of other household members' employment deprivation on youth economic outcomes and living arrangements decisions holds using a particularly flexible household level employment deprivation indicator. Our results will confirm that differences in youth living arrangements are not only related to individual labor market status but are also strongly related to the employment situations of other members of the household.

The paper is organized as follows. In the second section, we review the recent trends of working opportunities and employment conditions of young workers in the Spanish labor market, and we discuss the theory and evidence on the relationship between living arrangements, employment and household wellbeing. In the third section, we describe our empirical strategy, and in the fourth section we present and discuss our main results. The last section concludes.

2. Living arrangements and adverse economic conditions: how are they related?

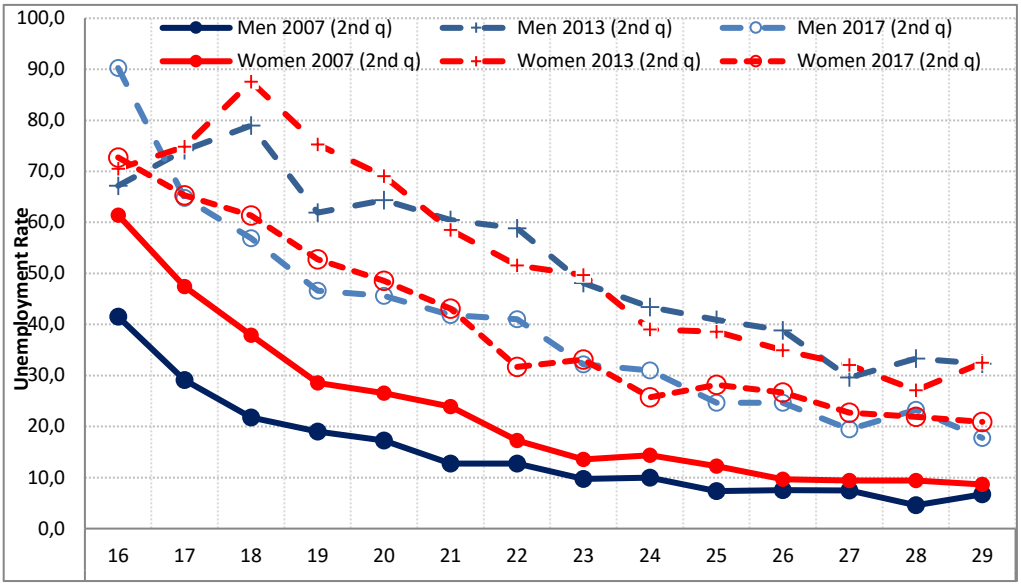
During the last decade youth vulnerability in terms of both unemployment risk and the job quality of those who are employed has increased, leading to more insecure school-to-work transitions and an increasing labor market detachment (Figures 1 and 2). In addition, young workers suffer the highest rate of fixed-term employment with a temporary rate over 50 percent (Figure 3) and a high turnover rate (Cebrián & Moreno 2018). Based on information from the Spanish Public Employment Service (Servicio Público de Empleo, SEPE), between 2012 and 2017, approximately one-third of all contracts were registered for workers under 35 years of age. In 2017, only 7 percent of them were open ended, whereas almost 40 percent in the case of men and more than 50 percent in the case of women were part-time, most of them involuntary. The global part-time rate has been around 15 percent since 2012, while for those under 35 it has been greater than 20 percent, with a very clear increasing trend since 2008 (Figure 4). Some studies suggest that many young people in Spain are trapped in temporary work and that only some of them can manage to have open-ended contracts after various years of high job instability (Güell & Petrongolo, 2007; Toharia & Cebrián, 2007; Cebrián & Toharia, 2008; García-Pérez & Muñoz-Bullón, 2011; García-Pérez et al., 2014; Cebrián & Moreno, 2020).

Figure 1: Trends in activity and employment of young individuals (under 35) by gender, 2005-2017



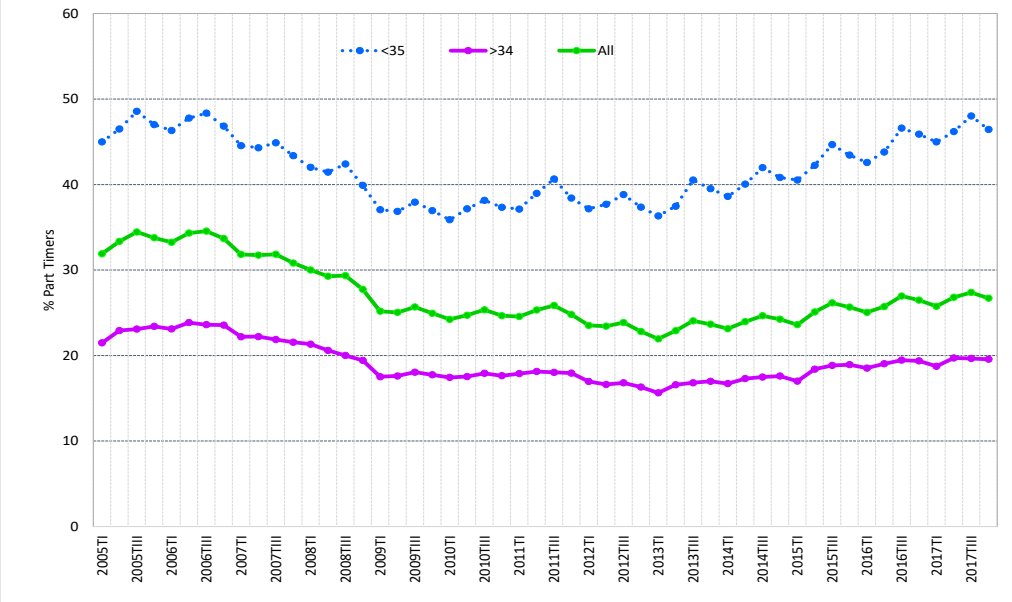
Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2005-2017. Instituto Nacional de Estadística (INE).

Figure 2: Youth unemployment rates by age and gender: 2007, 2013 and 2017



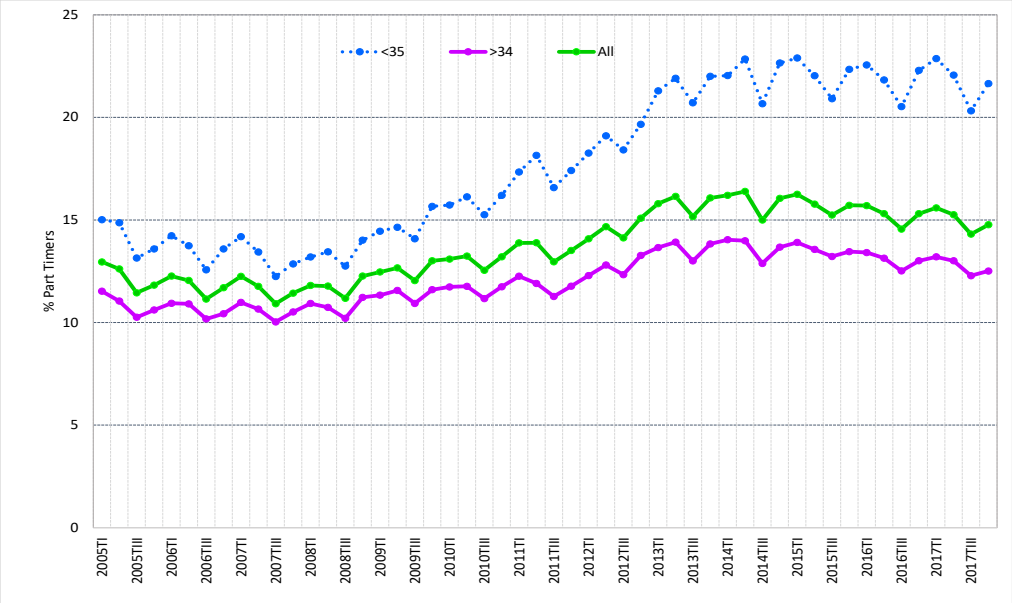
Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2nd quarter, 2007, 2013 & 2017. Instituto Nacional de Estadística (INE).

Figure 3: Trends in share of temporary contracts by age group, 2005-2017



Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2005-2017. Instituto Nacional de Estadística (INE).

Figure 4: Trends in share of part time work by age group, 2005-2017



Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2005-2017. Instituto Nacional de Estadística (INE).

One of the main expected consequences of youth labor market precariousness, is young people adopting an "adapting to circumstances" attitude, and thus a change in the household's living arrangements. Some studies showed that not only did many young individuals decide to delay emancipation during the crisis but also some of them returned to their family nests to avoid poverty (Ceballos-Santamaría & Villanueva, 2014). Indeed, it is not just youth emancipation that the risk of poverty affects (Aassve et al., 2002, 2007, 2013a, 2013b; Parisi, 2008), living arrangements decisions also affect household poverty (Aassve et al., 2013a, 2013b). Leaving home increases the poverty entry rate of the remaining household members so that the economic contributions of young people to the parental home if they stay are also important for other members' wellbeing (Cantó & Mercader-Prats, 2001). For Spain or Italy, various studies have underlined that high housing prices are also key to deterring youth emancipation (Martinez-Granado & Ruiz-Castillo, 2002; Alessie et al., 2006) so that increasing housing price trends in the last decade will be also contributing to emancipation delay. The evidence on youth living arrangements in Spain has generally concluded that delayed emancipation is due to two main reasons. First, the reduction of poverty risk among non-emancipated youth is linked to an increasing number of Spaniards living with two employed parents. Second, in poor households, youth salaries play a key protective role for other co-residing family members by significantly reducing the family's poverty risk. If these reasons hold, recent recession periods should have pushed them to turn to their families in search of financial protection.

The literature has consistently shown that perceived job insecurity, limited access to credit markets, high housing prices, and low lifetime earnings play important roles in delaying youth emancipation (Giannelli & Monfardini 2003, Becker et al., 2010). Most traditional economic analysis has shown that this decision is strongly related to the parent's and child's income: the higher the child's income, the higher the emancipation rates. Meanwhile, co-residence is more likely to happen when parental income is higher (McElroy, 1985; Avery et al., 1992; Ermisch, 1999).

However, given a similar level of income, large differences persist in the emancipation patterns of various European countries. In Scandinavia, emancipation takes place early while in Southern European countries it takes place much later. Ayllón (2015) found that emancipation increases the probability of entering poverty for only a short period of time in Scandinavia, whereas in Southern European countries, fewer youth face economic hardship (due to co-residence). However, those who are in poverty have greater difficulty with leaving it behind, so they suffer longer poverty spells.[1]

A number of other papers have analysed the relationship between youth living arrangements and other factors (related to but different from income), such as precariousness in its various forms (low wages, poverty, job insecurity, etc.). The main results are consistent with the relevant role of low wages and the need for complementary parental transfers to maintain wellbeing in deterring emancipation (Di Stefano, 2017). The higher the father's job insecurity and the lower the youth job insecurity, the higher

1 Ayllón (2015) shows that one should not measure youth poverty persistence in EU countries independently from other related life transitions with lasting consequences on young people's economic wellbeing, such as finding a job or leaving the parental home.

the probability of youth emancipation (Becker et al., 2010). In this line of argument, we believe that it is of interest to test to what extent the theoretical assumption about the irrelevance of other household members' employment deprivation on youth living arrangements' decisions holds. Therefore, the aim of this paper is to contribute to close this research gap by measuring household member's employment deprivation and analysing its impact on youth living arrangements during three different business cycle periods in Spain.

3. Modelling youth living arrangements and household employment deprivation in Spain using the Labor Force Survey data

3.1 Data and main definitions

We use data from the quarterly Spanish Labor Force Survey (*Encuesta de Población Activa*, EPA) to analyze youth living arrangements for more than an entire decade (2005-2017). The Spanish Statistical Office (*Instituto Nacional de Estadística*, INE) has repeatedly collected these data in a quarterly basis since the end of the 1960s providing a large dataset that includes 150,000 observations per quarter, and 20,000 to 30,000 individuals between 16 and 34 years of age.[2]

During the Great Recession, one of the main issues that was raised as being most worrisome in developed countries is the severity of the impact of unemployment on households so as to exclude them from the labor market completely. In fact, during the past two decades, a certain gap has been widening between "work rich" and "work poor" households as first noted in Gregg & Wadsworth (1996). Indeed, the OECD (2001) shows that workless household rates are more highly correlated with working-age poverty rates across countries than individually based unemployment rates.

Following the methodology proposed in Gradín et al. (2017) we measure the role of low work intensity or underemployment at the household level as a determinant of youth economic outcomes and living arrangement decisions. This allows us to establish a direct relation between household precariousness and youth living arrangements, as many individuals are vulnerable to social exclusion because they cohabit in households with very low work intensity. Note that household precariousness means that active individuals in the household (different from the young individual) are employed below their employment potential. Gregg et al. (2010) underline that household joblessness is an important factor in the intergenerational transmission of poverty given that parental income has significant effects on the future welfare of cohabiting children. Clearly, jobless households will have the highest value in our household precariousness indicator.

Following Ayala et al. (2017), we also consider the role of severe household poverty in youth living arrangements. Severely poor are those individuals living in households where nobody receives income from work or a benefit from social security. Thus, a young person

2 Table A1 and Table A2 in the Appendix show the sample size of a representative quarter of our dataset in terms of households, individuals, and young people aged 16 to 29 years of age.

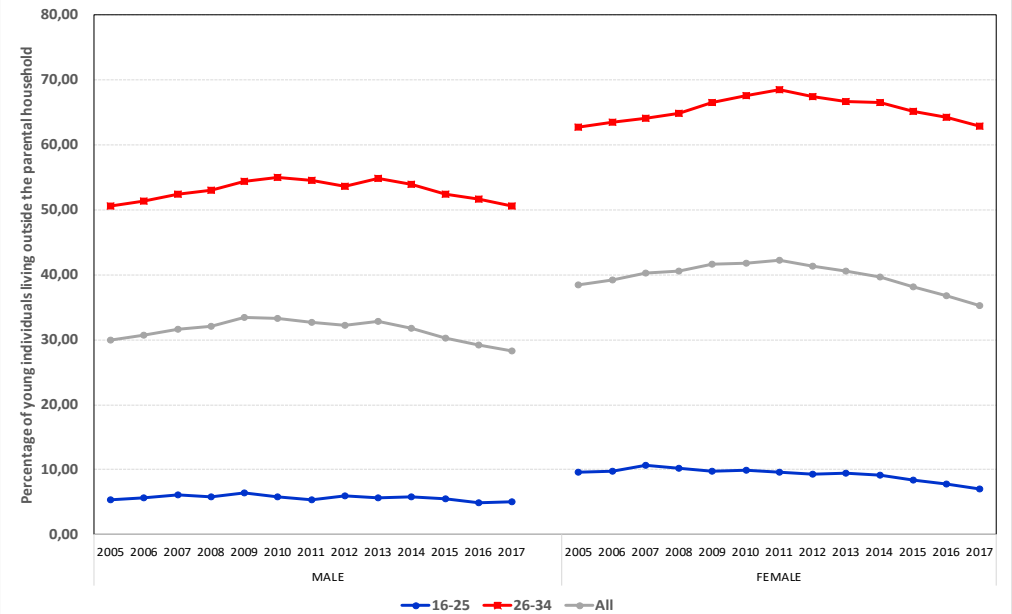
is considered to be severely poor if household disposable income is extremely low. Our indicator considers both a lack of income and a lack of earnings (i.e., household joblessness or low work intensity) so that our poverty indicator is a measure nearer to a "vulnerability" concept. We believe that both the lack of income and household members' labor market exclusion are most likely to condition the individual perception of poverty risk or income deprivation, and consequently, determine youth living arrangements' decisions. Furthermore, this measure of severe poverty is strongly linked to the idea of "disconnected households", generally defined as those where all active members are unemployed and do not receive any public transfers, a group which unfortunately is still quite unexplored in the European context (Blank & Kovak, 2008).

A key definition in our analysis is that of young people. Unfortunately, no wide consensus exists on the age limit to consider what we mean when we use the word "youth." In general, nevertheless, given the increase in the length of education, the delay in emancipation, and the postponement of fertility, the most common range of ages for youth in the literature is from 16 to 34 years of age. Interestingly, the EPA provides us with particularly detailed information on all household members' labor market situations and youth living arrangements considering the answer to the question on each individual's relationship with the household head. Moreover, instead of using a definition of poverty that is strictly related to household income as in Ayllón (2009), we consider three complementary definitions of lack of resources and employment deprivation that focus on a household perspective: low work intensity (underemployment), joblessness (unemployment) and severe poverty.

Our final sample includes more than 800,000 native individuals below 35 years of age. Within them, we furtherly distinguish two age groups, those between 16 and 25 years of age, and those between 26 and 34 years of age, in order to understand if we are considering parent's employment deprivation or that of spouses or other cohabitants. This distinction is also key to separate individuals whose parents are agents of socialization (16-25 years of age) from cohabiting adults for whom the parental socialization process is over (26 to 34 years of age). The lower age limit has been chosen for practical reasons, as the EPA interviews in detail only individuals at or over this age. The two upper limits follow the literature on the matter: 26 years is the emancipation mode age in Spain and emancipation rates at 35 are close to 80 percent. It is precisely at that age that transitions become less frequent in comparison to the 26-34 age range.

In a first look at the data in Figure 5 we can see that the percentage of young individuals (16-34) living outside of the parental home in Spain experienced an increasing trend during the boom, especially in the case of females and those belonging to the 26-34 group, even if the mean age of those emancipating was also slightly growing during this period. This implies that this increase should not be interpreted as the youngest generation deciding to emancipate earlier. Rather, the oldest individuals among the young population finally found a way to make this transition, probably due to a quite favourable labor market situation. This percentage stabilized during the recession and was rather constant up to 2013. In turn, during the years of economic recovery before the COVID-19 outbreak, the percentage of young individuals living outside of the parental home fell significantly and was below that of 2005, whereas the mean age of those living outside of the parental home has been rather stable at around the age of 30.

Figure 5: Percentage of young individuals living outside the parental household



Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2005-2017. Natives only. Instituto Nacional de Estadística (INE).

3.2 A measure of household employment deprivation or low work intensity

To measure household employment deprivation, we only consider the working hours of active household members different from the young individual. Consider a society consisting of N households where at least one adult member different from the young individual is economically active (i.e., he or she is a working-age individual available to work). Each household i has a raw vector of individual employment gaps i, whose elements are given by:

$$g_{ij}^{\gamma} = \begin{cases} \left(\frac{\overline{h_{ij}} - h_{ij}}{\overline{h_{ij}}}\right)^{\gamma} & if\ h_{ij} < \overline{h_{ij}}\ and\ j \in \theta_i \\ 0\ otherwise \end{cases} \qquad (1)$$

where parameter $\gamma = 1$ [3]; $h_{ij} \geq 0$ is the number of working hours of individual j; $\overline{h_{ij}} > 0$ is the individual threshold of working hours (that is, the number of working

3 Different values of parameter γ would allow to consider different contributions to the household employment deprivation index of the individuals affected by employment deprivation. If $\gamma = 0$, all would contribute equally to the index, regardless of their gap. In our specific case, we choose $\gamma = 1$, so we consider the mean household gap, avoiding taking into account how deprivation is distributed between household members. If $\gamma > 1$, the index would reflect the loss of household welfare when employment deprivation is

hours he or she wishes to work, the usual number of hours, or the potential number of hours); and θ_i is the set of employment-deprived individuals (those who are either unemployed or underemployed) in household i. If θ_i includes both unemployed and employed individuals who wish to increase their number of usual working hours (underemployed or low-work-intensity workers), g_{ij}^{γ}quantifies the relative gap of working hours for each unemployed or underemployed individual in the household. This means that for unemployed workers, $g_{ij}^{\gamma} = 1$, but for underemployed workers, $0 < g_{ij}^{\gamma} < 1$. Thus, our household employment deprivation index is a function $u_i(g_{ij}^{\gamma})$, which maps each individual employment gap profile into R_+ (where R_+ is the nonnegative real number set). Finally, the household employment deprivation index, $u_i(g_{ij}^{\gamma})$, is:

$$u_i(g_{ij}^{\gamma}) = \frac{1}{H_i^A}\sum_{j=1}^{H_i^A} g_{ij}^{\gamma} \qquad (2)$$

where H_i^A is the number of economically active individuals (different from the young individual) in household i and $u_i(g_{ij}^{\gamma})$ represents the share of the gap of total working hours in the household (in relation to the maximum number of hours possible). We then classify households from lower to higher employment deprivation in five groups according to their employment deprivation level. This is a categorical variable named HP_{jt} which describes the household employment deprivation profile or employment exclusion gap (from low to very high) in our five categories plus joblessness. This variable can take five different values: below 0.2 (active individuals in the household are employed an 80% of their total potential hours), between 0.2 and 0.4, between 0.4 and 0.6, between 0.6 and 0.8, over 0.8 but below 1, and equal to 1 (all active individuals in the household are jobless).[4]

3.3 *Multivariate analysis of youth economic outcomes and household employment deprivation*

To identify the role of household members' employment deprivation on youth economic outcomes and living arrangements in a simple way, we first estimate a linear probability model as a first approach to the econometric analysis of this relationship. We estimate the determinants of the probability P_{it} that an individual i living in household j in region h being emancipated (not co-habiting with parents) at moment t as:

$$P_{it}(emancipated) = f\left(X_{it},\ HP_{jt}, severe_{jt}, q_s, r_j, \delta_{rec}, \gamma_{reco}, \log p_{ht}\right)$$
$$\rightarrow P_{it}(emancipated) = \Pr\left(y_{it} \neq 0 \middle| X_{it},\ HP_{jt}, severe_{jt}, q_s, r_j, \delta_{rec}, \gamma_{reco}, log\ p_{ht}\right) \qquad (4)$$

concentrated in fewer household individuals. Thus, this parameter captures the sensitivity of the household employment deprivation index to the variability in the employment gap of those household members that are employment deprived (see Gradín et al., 2017 for more details).

4 Note that if the young adult lives alone, household employment deprivation cannot affect youth economic outcomes so household employment deprivation will be considered to be zero in this particular case and only the individual labor status will have a role.

where y_{it} is a dichotomous variable identifying individuals non-cohabiting with parents with a 1 and those cohabiting with parents with a 0 and where X_{it} are individual and household socio-economic and demographic characteristics. The significance and coefficient of the categorical variable HP_{jt} is of most interest for our analysis because it measures the relevance of household level adverse economic conditions on youth living arrangement decisions. This deprivation profile resumes high unemployment or underemployment rates (involuntary part-time employment) at the household level once we control for individual labor market status. Further, we will also be interested in identifying the role of severe household poverty ($severe_{jt}$) on the probability of cohabiting with parents. We estimate the linear probability model for non-immigrant individuals between 16 and 25 and 26 to 34 years of age separately and for males and females.[5]

We control for the economic cycle by including δ_{rec} which is a dummy for recession years (2008 up to 2014) and γ_{reco}, a dummy for recovery years (2015 up to 2017). Finally, q_s and r_j are quarterly and regional dummies and $\log p_{ht}$ are logged mean housing prices at the regional level to control for differences in the macroeconomic conditions that may affect living arrangements decisions. We include various interaction terms of both labor market status and household precariousness with the recession period (or recovery period).

To further control for reverse causation between living arrangements and individual and household labor and economic situation, we consider a second way of specifying this relationship econometrically by estimating two seemingly unrelated regression (SUR) models (Cameron & Trivedi, 2010) for the probability of cohabiting with parents and for the dimension of household employment deprivation gap. The probability P_{it} that an individual i living in household j in region h is emancipated at moment t is estimated as in equation (4) but we can now consider that errors in that equation can be correlated to the errors of another equation (5) that relates the observed household level of employment deprivation to individual emancipation. This second regression model is estimated simultaneously to equation (4) relating the calculated level household precariousness using our household employment deprivations index, $u_{it}(g_{ijt}^{\gamma})$, which takes values between 0 and 1, with the individual emancipation status (y_{it}) and a list of individual socio-economic and demographic characteristics, dummies for recession and recovery periods ($\delta_{rec}, \gamma_{reco}$), quarter and year fixed effects, regional dummies (q_s, r_j) and regional youth (16 up to 34 years of age) unemployment rates by gender ($unemp_{ht}$).

$$u_{it}(g_{ijt}^{\gamma}) = f(y_{it},\ X_{it}, q_s, r_j, \delta_{rec}, \gamma_{reco}, unemp_{ht}) \qquad (5)$$

As noted earlier, emancipated individuals ($y_{it} = 1$) may move back to their parental homes when facing economic difficulty. If we find that emancipation increases the probability of living in a household with a higher level of precariousness, we would confirm the "adapting to circumstances" result in Ayllón (2009). This is also true for the

5 We additionally run robustness checks using a standard probit estimation and the results obtained are very similar.

recession period for both young individuals and their families, which implies the use of co-residence as a safety net for all household members who need it.[6]

4. The relationship between youth living arrangements, household members' employment deprivation and severe poverty

We here discuss our main results on the impact of individual and household employment deprivation levels on youth economic outcomes and living arrangements in Spain for a 12-year period. As Table 1 shows, on average, the emancipation rate for the population aged 16-34 during the bust is only slightly higher than during the boom (one percentage point), half of that obtained by Ahn & Sanchez-Marcos (2017). Adding the recovery period in the analysis clarifies that the emancipation rate decreases with some delay in relation to the business cycle: it falls four percentage points in the recovery period compared with the bust, and three percentage points compared to the boom.

Considering that a variety of reasons affect the decision to emancipate, and a key determinant may be other household members employment deprivation levels, it is most interesting to compare the emancipation rates both by individual and household member's labor market status in the three periods. Table 1 shows that the proportion of unemployed among young individuals doubled between the boom and the bust and has been rather stable during the recovery. That is, youth unemployment rates fell to a very limited extent during the 2014-2017 period, whereas inactivity increased significantly: from 31 percent in the boom to 38 percent in the recovery. This implies that the percentage of young, employed individuals consistently falls in the period from 60 percent (boom) to 42.6 percent (recovery).

As expected, employed young individuals show the highest emancipation rate, while non-participants reduced their emancipation rate from 16 percent to 9.1 percent in this 12-year period. Interestingly, emancipation rates are very different for individuals with different household employment deprivation levels. If work intensity is low or very low, emancipation is extremely low. Reverse causation implies that individuals in jobless households are often emancipated and emancipation rates of individuals living in extremely poor households is high. Most importantly, in both cases, emancipation rates have consistently fallen since 2005, from 45 to 35 percent and from 58 to 49 percent, respectively. This shows that parental protection against risk is becoming more important whatever the business cycle situation may be. By undertaking a t-test, we find that all of these differences are statistically significant.

6 Ayllón (2009) follows a different estimation strategy developed by Van de Ven and Van Praag (1981) and based on two Heckman selection models that estimate two probability equations simultaneously: A selection equation that controls if the young individual is in the parental home and a second one that estimates the probability of household precariousness.

Table 1: Emancipation rates and distribution of the young population aged 16-34 by household precariousness levels and individual labour market status in boom, bust and recovery periods, 2005-2017

	Boom 2005-2008		Bust 2009-2013		Recovery 2014-2017	
	Distribution (%)	Emancipation (%)	Distribution (%)	Emancipation (%)	Distribution (%)	Emancipation (%)
By household situation						
Non-participants	2.7	22.2	2.7	22.5	2.9	20.6
Normal work intensity	80.2	34.6	65.4	38.0	63.8	34.1
Low work intensity	6.7	11.2	8.0	12.7	8.2	11.1
Very low work intensity	6.3	11.9	12.7	11.5	14.1	10.6
Joblessness	4.1	45.2	11.2	42.8	10.9	35.0
	100	**31.7**	**100**	**32.7**	**100**	**28.6**
By poverty levels						
Non severe poor	98.7	31.4	97.4	32.1	96.8	27.9
Severe poor	1.3	57.8	2.6	56.1	3.2	49.5
	100	**31.7**	**100**	**32.7**	**100**	**28.6**
By individual situation						
Non-participants	30.9	16.0	33.1	11.7	38.0	9.1
Unemployed	9.3	27.1	20.5	30.3	19.4	26.6
Employed	59.8	40.6	46.4	48.8	42.6	46.9
	100	**31.7**	**100**	**32.7**	**100**	**28.6**

Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2002-2017. Instituto Nacional de Estadística (INE)

We also check the extent to which changes among these three business cycle periods are due to increases in the share of unemployed, inactivity, and very low work intensity versus behavioral changes. To do this, in Table 2 we compute the contribution of each factor to the evolution of the emancipation rate by decomposing the total variation of the emancipation rate into behavioral and compositional changes. This decomposition allows us to identify the role of emancipation decisions (behavioral) versus changes in sample composition (compositional) for determining the slight increase (1 percent) in emancipation rates between the bust and the boom. It also helps us to find the further reduction (4 percent) between the recovery and the bust. Holding the composition at the average of the first two periods (boom and bust), we conclude that behavioral changes are relevant only for well-positioned individuals, the employed, those whose households have normal levels of work intensity, and those who are over 30 but still living with their parents. In fact, the counterintuitive result of the increase in emancipation between the boom and the bust is clearly explained by this behavioral change and the change in the age and labor market situation composition of the young population. This change increases the population weight of this group of employed youth over 30 years of age (Table 2). The consequence is a two-year delay in the impact of the Great Recession on youth living arrangements, more so in the case of females, a group whose individual labor market status is a weaker determinant of youth living arrangements.

Table 2: Decomposition of the variation in youth living arrangements between business cycle periods (16-34): behavioural versus compositional

	Boom versus Bust			Bust versus Recovery		
	Total	Behavioural	Compositional	Total	Behavioural	Compositional
By age-groups						
16-25	-3.7%	-0.2%	-3.5%	1.7%	-0.4%	2.0%
26-29	2.2%	0.4%	1.8%	-2.2%	-1.0%	-1.2%
30-34	33.9%	0.4%	33.6%	-24.2%	-1.5%	-22.7%
By gender						
Male	-2.7%	0.3%	-3.0%	0.1%	-1.8%	1.9%
Female	4.7%	0.7%	4.0%	-4.9%	-2.3%	-2.6%
By household situation						
Non-participants	-0.3%	0.0%	-0.3%	0.1%	0.0%	0.2%
Normal work intensity	7.7%	2.4%	5.3%	-6.5%	-2.9%	-3.6%
Low work intensity	-0.7%	0.1%	-0.8%	0.5%	-0.1%	0.6%
Very low work intensity	-1.2%	0.0%	-1.2%	0.7%	-0.1%	0.8%
Joblessness	1.4%	-0.2%	1.7%	-1.8%	-0.8%	-1.0%
By poverty levels						
Non severe poor	-1.7%	0.7%	-2.4%	-3.6%	-4.1%	0.5%
Severe poor	2.4%	0.0%	2.4%	-1.1%	-0.2%	-0.9%
By individual situation						
Non-participants	-5.3%	-1.2%	-4.1%	1.5%	-0.6%	2.1%
Unemployed	-0.1%	0.5%	-0.6%	-0.2%	-0.6%	0.4%
Employed	18.9%	4.6%	14.3%	-11.7%	-1.1%	-10.5%

Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2002-2017. Instituto Nacional de Estadística (INE).

4.1 The determinants of youth living arrangements: the role of household employment deprivation and severe poverty

We now run a variety of regressions to control for the correlation of various factors in determining the probability of youth emancipation. Given the relevance of behavioral changes in both the individual and the household labor market situation, we want to disentangle the impact of these two variables on the probability of being emancipated. We know that youth living arrangements are different by gender and age, so we focus on those aged 26-34 in our main analysis. Regressions include interaction terms of a variety of explanatory variables with the recession and recovery period and some further controls for regional and time-related differences in macroeconomic conditions that may affect living arrangements decisions.[7]

7 Note that given the reverse causation problem between emancipation decisions and individual and household economic situations, we also estimate three seemingly unrelated regression models for the probability of being emancipated and the dimension of household employment deprivation and severe poverty. Our estimations show that these risks are interrelated and should be best estimated using a model where errors are allowed to be correlated. We use these regressions to predict the probability of a particular youth living arrangement depending on the individual labor market situation and other household members' precariousness situations.

Table 3a: OLS and Seemingly Unrelated Regression results on emancipation for females between 26-34 years of age (1=cohabiting), 2005-2017

	OLS	OLS	OLS	SUR	SUR	SUR
	(1)	(2)	(3)	(4)	(5)	(6)
Recession period	0.026 ***			0.031 ***		
Recovery period		0.036 ***			0.036 ***	
Labour market status (re: f-t permanent)						
Studying	-0.236 ***	-0.211 ***	-0.234 ***	-0.235 *	-0.212 ***	-0.233 ***
Inactive	0.065 ***	0.066 ***	0.051 ***	0.066 ***	0.067 ***	0.054 ***
Unemployed with experience	-0.090 ***	-0.056 ***	-0.086 ***	-0.079 ***	-0.046 ***	-0.075 ***
Unemployed (first job seeker)	-0.338 ***	-0.332 ***	-0.343 ***	-0.324 ***	-0.322 ***	-0.330 ***
Part timer - permanent	0.058 ***	0.064 ***	0.052 ***	0.059 ***	0.065 ***	0.053 ***
Part timer - temporary	-0.055 ***	-0.038 ***	-0.054 ***	-0.051 ***	-0.035 ***	-0.050 ***
Full timer - temporary	-0.088 ***	-0.069 ***	-0.073 ***	-0.087 ***	-0.068 ***	-0.071 ***
Self-employed	0.014 **	0.027 ***	0.017 ***	0.013 **	0.026 ***	0.016
Interaction: recession x						
Studying	0.005			0.003		
Inactive	-0.049 ***			-0.047 ***		
Unemployed with experience	0.011			0.013 **		
Unemployed (first job seeker)	-0.010 **			-0.012		
Part timer - permanent	-0.015 **			-0.014 **		
Part timer - temporary	0.004			0.005		
Full timer - temporary	0.042 ***			0.043 ***		
Self-employed	0.005			0.006		
Interaction: recovery x						
Studying		-0.099 ***			-0.096 ***	
Inactive		-0.091 ***			-0.087 ***	
Unemployed with experience		-0.093 ***			-0.091 ***	
Unemployed (first job seeker)		-0.049 **			-0.043 **	
Part timer - permanent		-0.050 ***			-0.049 ***	
Part timer - temporary		-0.064 ***			-0.061 ***	
Full-timer temporary		-0.028 ***			-0.027 ***	
Self-employed		-0.055 ***			-0.054 ***	
Household precariousness (ref: no other hh. members employment deprived)						
low	-0.196 ***	-0.185 ***	-0.186 ***	-0.205 ***	-0.193 ***	-0.195 ***
low-middle	-0.396 ***	-0.419 ***	-0.402 ***	-0.422 ***	-0.443 ***	-0.430 ***
middle	-0.379 ***	-0.407 ***	-0.392 ***	-0.424 ***	-0.449 ***	-0.439 ***
middle-high	-0.386 ***	-0.413 ***	-0.404 ***	-0.449 ***	-0.417 ***	-0.470 ***
high	-0.226 ***	-0.134 ***	-0.176 ***	-0.311 ***	-0.214 ***	-0.266 ***
very high - joblessness	-0.042 ***	0.026 ***	-0.008 **	-0.139 ***	-0.066 ***	-0.110 ***
Extreme poverty						
Yes	0.248 ***	0.220 ***	0.232 ***	0.246 ***	0.219 ***	0.230 ***

Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for age. age squared. quarter. year and regional dummies (NUTS-2) are also included in regressions as explanatory variables.

Table 3a: OLS and Seemingly Unrelated Regression results on emancipation for females between 26-34 years of age (1=cohabiting), 2005-2017 (continued)

	OLS	OLS	OLS	SUR	SUR	SUR
	(1)	(2)	(3)	(4)	(5)	(6)
Interaction: recession x						
low	0.028 **			0.028 ***		
low-middle	-0.011			-0.011 ***		
middle	-0.024 **			-0.025 **		
middle-high	-0.031			-0.031 ***		
high	0.117 ***			0.114 ***		
very high - joblessness	0.069 ***			0.067 ***		
Interaction: recovery x						
low		0.002			0.001	
low-middle		0.064 ***			0.063 ***	
middle		0.057 ***			0.056 ***	
middle-high		0.044 **			0.042 **	
high		-0.078 **			-0.079 ***	
very high - joblessness		-0.082 ***			-0.083 ***	
Interaction: recession x						
extreme poor	-0.028 **			-0.028 **		
Interaction: recovery x						
extreme poor		0.052 **			0.052 ***	
Log housing prices	-0.072 ***	-0.078 ***	-0.046 ***	-0.084 ***	-0.088 ***	-0.046 ***
regional unemployment rate			-0.001 ***			-0.001 **
Constant	-3.565 ***	-3.530 ***	-3.747 ***	-3.422 ***	-3.399 ***	-3.704 ***
Age, age squared, quarter and regional dummies.	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	No	No	No	No	No	No
Observations	401,717	401,717	401,717	401,717	401,717	401,717
F-Statistics	1627,33	1646,54	1721,53	1826,00	1813,38	1934,64
R-squared	0.188	0 .428	0.188	0.185	0.186	0.185
Breusch-Pagan test of Independence: chi2(1)				61.727 Pr = 0.0	66.619 Pr = 0.0	1863.316 Pr = 0.0

Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for age. age squared. quarter. year and regional dummies (NUTS-2) are also included in regressions as explanatory variables.

Table 3b: OLS and Seemingly Unrelated Regression results on emancipation males between 26-34 years of age (1=cohabiting). 2005-2017

	OLS	OLS	OLS	SUR	SUR	SUR
	(1)	(2)	(3)	(4)	(5)	(6)
Recession period	0.024 ***			0.025 ***		
Recovery period		0.042 ***			0.043 ***	
Labour market status (re: f-t permanent)						
Studying	-0.346 ***	-0.330 ***	-0.350 ***	-0.347 *	-0.331 ***	-0.350 ***
Inactive	-0.352 ***	-0.345 ***	-0.355 ***	-0.350 ***	-0.344 ***	-0.354 ***
Unemployed with experience	-0.262 ***	-0.204 ***	-0.242 ***	-0.257 ***	-0.200 ***	-0.238 ***
Unemployed (first job seeker)	-0.441 ***	-0.430 ***	-0.444 ***	-0.437 ***	-0.428 ***	-0.441 ***
Part timer - permanent	-0.076 ***	-0.096 ***	-0.099 ***	-0.075 ***	-0.096 ***	-0.099 ***
Part timer - temporary	-0.192 ***	-0.159 ***	-0.178 ***	-0.190 ***	-0.158 ***	-0.176 ***
Full timer - temporary	-0.102 ***	-0.085 ***	-0.090 ***	-0.102 ***	-0.084 ***	-0.089 ***
Self-employed	-0.038 **	-0.021 ***	-0.034 ***	-0.039 **	-0.022 ***	-0.034
Interaction: recession x						
Studying	-0.007			-0.007		
Inactive	-0.010 ***			-0.010		
Unemployed with experience	0.047			0.047 **		
Unemployed (first job seeker)	-0.002 **			-0.004		
Part timer - permanent	-0.053 **			-0.053 **		
Part timer - temporary	0.046			0.046		
Full timer - temporary	0.032 ***			0.033 ***		
Self-employed	0.009			0.009		
Interaction: recovery x						
Studying		-0.073 ***			-0.073 ***	
Inactive		-0.048 ***			-0.047 ***	
Unemployed with experience		-0.106 ***			-0.106 ***	
Unemployed (first job seeker)		-0.042 **			-0.039	
Part timer - permanent		-0.016			-0.016	
Part timer - temporary		-0.055 ***			-0.054 ***	
Full-timer temporary		-0.036 ***			-0.035 ***	
Self-employed		-0.065 ***			-0.065 ***	
Household precariousness (ref: no other hh. members employment deprived)						
low	0.025	-0.196 ***	-0.195 ***	-0.209 ***	-0.199 ***	-0.199 ***
low-middle	-0.027 **	-0.254 ***	-0.242 ***	-0.239 ***	-0.264 ***	-0.253 ***
middle	-0.045 ***	-0.238 ***	-0.233 ***	-0.228 ***	-0.254 ***	-0.252 ***
middle-high	-0.048 ***	-0.180 ***	-0.189 ***	-0.187 ***	-0.201 ***	-0.215 ***
high	-0.035	-0.051 ***	-0.082 ***	-0.093 ***	-0.079 ***	-0.116 ***
very high - joblessness	-0.009	0.057 ***	0.030 **	0.000	0.025 ***	-0.009 ***
Extreme poverty						
Yes	0.420 ***	0.416 ***	0.408 ***	***	0.416 ***	0.407 ***

Source: Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for age. age squared. quarter. year and regional dummies (NUTS-2) are also included in regressions as explanatory variables.

Table 3b: OLS and Seemingly Unrelated Regression results on emancipation males between 26-34 years of age (1=cohabiting). 2005-2017 (continued)

	OLS	OLS	OLS	SUR	SUR	SUR
	(1)	(2)	(3)	(4)	(5)	(6)
Interaction: recession x						
low	0.028 **			0.025		
low-middle	-0.011			-0.028 ***		
middle	-0.024 **			-0.045 ***		
middle-high	-0.031			-0.048 ***		
high	0.117 ***			-0.036 **		
very high - joblessness	0.069 ***			-0.009 **		
Interaction: recovery x						
low		0.015			0.014	
low-middle		0.051 ***			0.051 ***	
middle		0.028 ***			0.028 ***	
middle-high		-0.009			-0.009	
high		-0.060 **			-0.060 **	
very high - joblessness		-0.068 ***			-0.069 ***	
Interaction: recession x						
extreme poor	-0.023			-0.023 **		
Interaction: recovery x						
extreme poor		-0.006 **			-0.007 ***	
Log housing prices	-0.057 ***	-0.052 ***	-0.011	-0.061 ***	-0.054 ***	-0.011 ***
regional unemployment rate			-0.001 ***			-0.001 **
Constant	-2.673 ***	-2.722 ***	-3.022 ***	-2.637 ***	-2.697 ***	-3.020 ***
Age, age squared, quarter and regional dummies.	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	No	No	No	No	No	No
Observations	411,003	411,003	411,003	411,003	411,003	411,003
F-Statistics	2,018	2,030	2,131	1,956	1,957	2,077
R-squared	0.2034	0.204	0.2037	0.203	0.203	0.203
Breusch-Pagan test of Independence: chi2(1)				242.250 Pr = 0.0	204.144 Pr = 0.0	287.699 Pr = 0.0

Source: Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for age. age squared. quarter. year and regional dummies (NUTS-2) are also included in regressions as explanatory variables.

In Tables 3a and 3b, we report the coefficients of three OLS and three seemingly unrelated regressions of emancipation on age, age squared, regional dummies, recession (2009-2013) or recovery period (2014-2017), individual labor market status, other household members' employment deprivation, and the interaction of all labor market variables with the recession and recovery. We include regional unemployment rates, log regional housing prices, and quarterly dummies as controls.

Our results confirm that differences in emancipation rates are not only conditionally correlated to individual labor market status but also to the levels of employment deprivation of other household members. Among females, those permanently employed (both full-time and part-time), the self-employed, and the inactive show the highest emancipation rates. However, if other household members are employment deprived, the probability that females are emancipated is significantly reduced. It is interesting to underline that other members' employment deprivation has a non-linear effect on female

emancipation. That is, if employment deprivation is low-middle, where the relative weight of the number of hours that other household members work below their wishes is greater than 20 percent and below 80 percent of the total potential working hours of active individuals, the probability of being emancipated is significantly lower than it otherwise would be. This result is interesting because it identifies a group of households where employed females may not emancipate because they are contributing to the households' reduction of employment deprivation.

If households are highly employment deprived or jobless, it is most likely that emancipation has already taken place, so individuals are not capable of helping their households to avoid poverty. A similar reasoning applies when we consider the role of severe poverty in determining youth living arrangements. Our results clearly show that severe poverty, meaning no income from wages or any social benefits, is more likely to affect young females who have already emancipated. Among males, we find similar results, but it is clear that individual labor market status variables have significantly larger effects on emancipation decisions for them than for females, whereas other household members' employment deprivation has a relevant, yet somewhat smaller, role.

Full-time male workers with permanent contracts have the highest emancipation rate in all specifications, whereas inactivity reduces emancipation strongly (35 percent) and short-term contracts by 10 percent compared with stable ones. During the recovery years, the labor market status for males has increased its impact on emancipation decisions, meaning that those who do not have employment when the recovery provides new available posts are those who seek more family networks to maintain minimum levels of wellbeing. This is observable for both males and females. During recession periods, inactive males (not studying) and those in part-time permanent contracts have significantly lower probabilities of being emancipated; during the recovery, all young males in other labor market situations different from full-time employment in permanent contracts are showing significantly lower probabilities of being emancipated. This means that those who do not find employment during recovery are prone to depend on their parents' economic help and thus are more likely to cohabit. Very similar results are obtained for females even if (generally) estimated coefficients are of a smaller dimension.

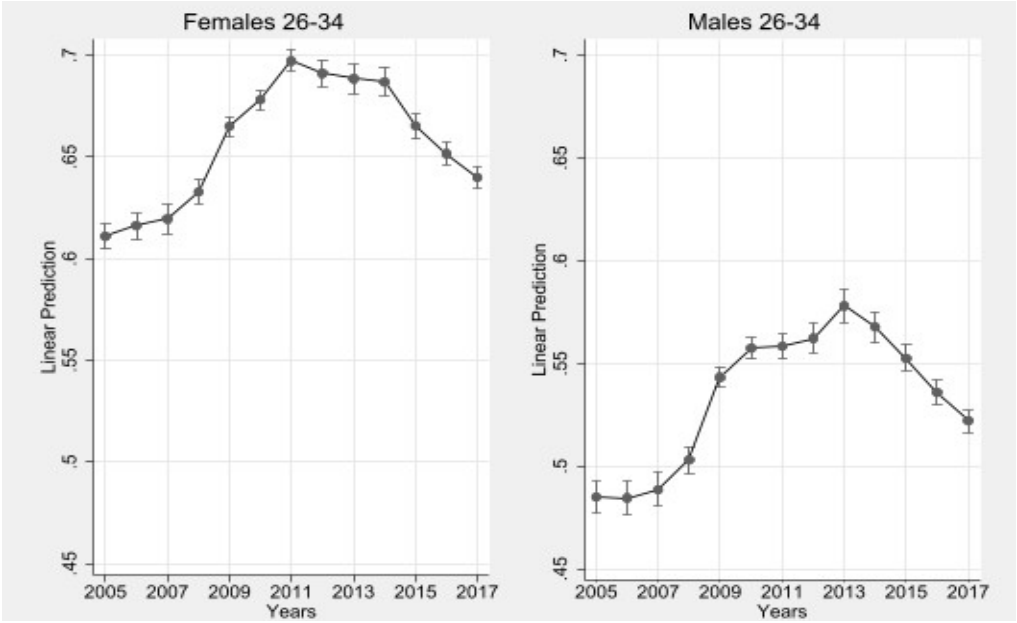
The living arrangements pattern along the business cycle in Spain shows that even if a secular trend of delay in emancipation has occurred for several decades, once we control for individual labor market status (both for males and females) and other household members' employment deprivation, the recession years would have had a net positive impact on emancipation if unemployment and employment deprivation had not increased so much. Thus, the underlying living arrangements trend is a positive one once we control for labor market conditions. Naturally, the recovery years register a significantly higher positive impact on living arrangements, more so for males than for females, whereas adverse labor market conditions for both continue to have a very relevant role in reducing the probability of cohabiting with parents. Thus, emancipation is clearly favored during the recovery, especially for males. Meanwhile, once we control for the business cycle, the main trend in emancipation decisions is a positive one.

Our results using SUR regressions show reverse causation between the living arrangements decisions of young household members and household economic situations due to joblessness and low work intensity (Tables 3a and 3b). Thus, when it

comes to estimating the probability of a particular living arrangement and the determinants of household precariousness, errors are correlated. If we allow for this correlation, we confirm the "adapting to circumstances" attitude result in Ayllón (2009) for both the recession and the recovery period. This implies the use of co-residence as a safety net for all household members who need it.

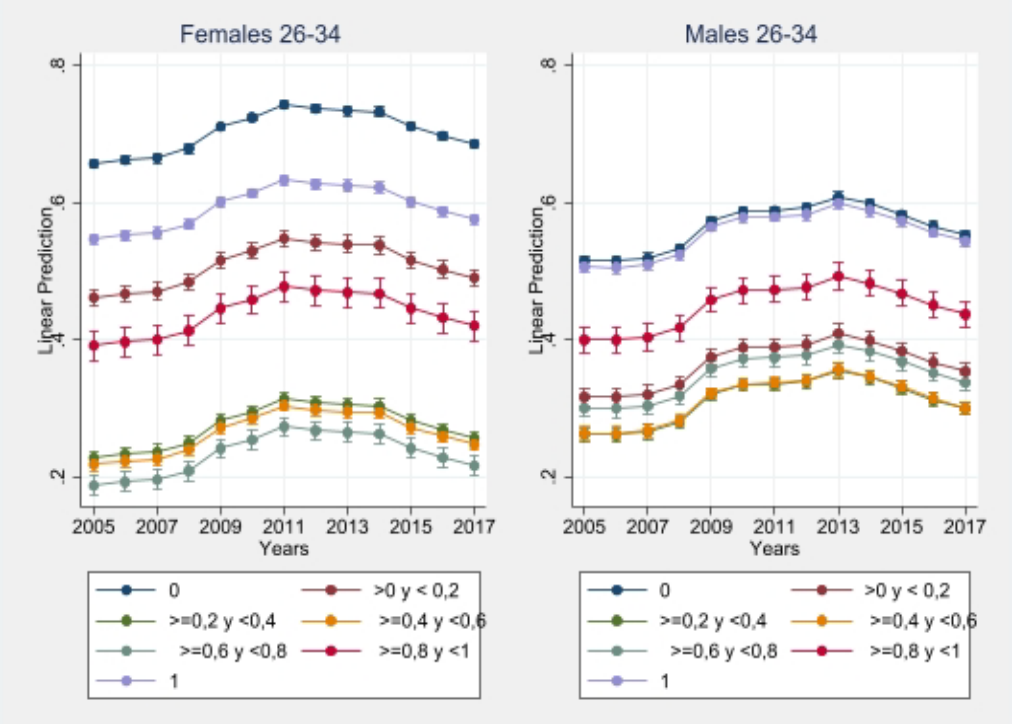
Based on our previous results, we predict the probability of youth living outside of the parental home by gender and year, household employment deprivation level, and individual labor status for the 2005-2017 period. The results are depicted in Figures 6 to 9. It is interesting to compare the predicted probability of being emancipated by year with the actual percentage of emancipated individuals observed in the sample. Interestingly, even if emancipation rates decreased from 2010 onwards (see Figure 5) when we control for age, individual labor status, household employment deprivation, etc., we find that a mean individual (both male and female) experienced a reduction in the probability of being emancipated only from 2011 onwards. In the case of males, this was true from 2013 onwards—that is, somewhat later after the beginning of the bust. This means that the impact of recessions on living arrangements occurs with some delay. However, it is also visible that recovery after 2014 shows no sign of impact on youth living arrangements even three years after the end of the bust (2014), both for males and females. This could be a result of the high levels of precariousness of many recovery jobs, which even if providing some relief to individual and household wellbeing, do not push the probability of emancipation sufficiently upwards.

Figure 6: Predicted probability of youth between 26 to 34 living out of the parental home by gender and year. 2005-2017



Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE).

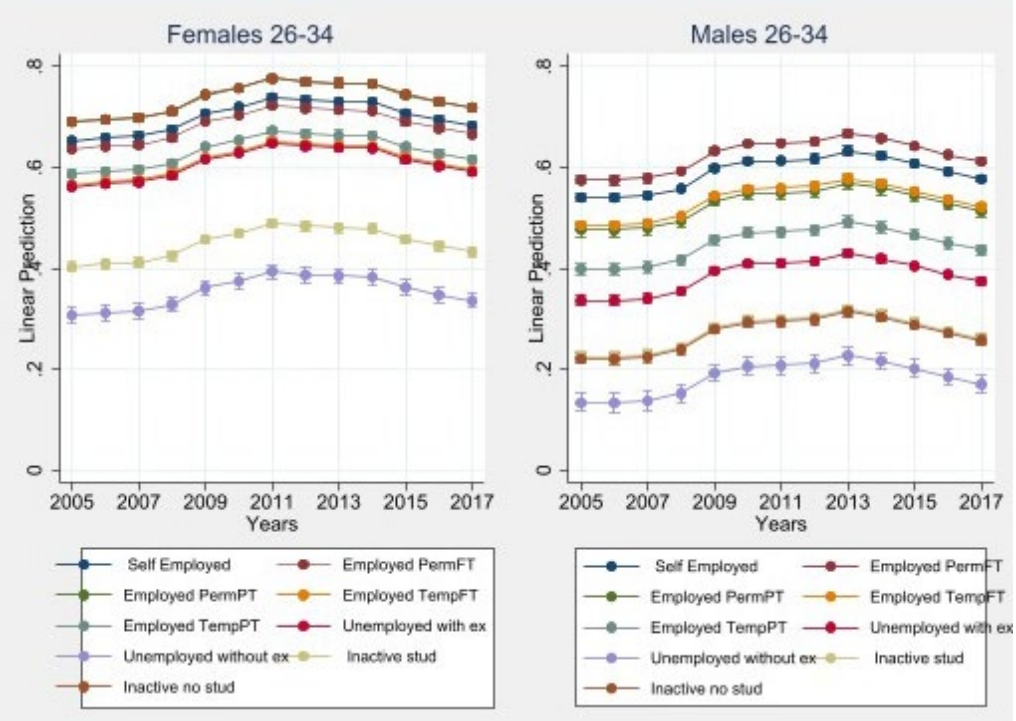
Figure 7: Predicted probability of youth between 26-34 years of age living out of the parental home by gender and other household members' employment deprivation situation. 2005-2017



Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE).

Figure 7 plots the probability of youth living outside of the parental home by other household members' employment deprivation levels. The results show that youth cohabiting in households whose members work less than 80 percent of their potential working hours tend to be more likely to remain in the parental home so that they may provide help to the family. Focusing on the role of individual labor status (Figure 8), we confirm that young females show a much higher emancipation rate than males do (four times larger) if they are inactive but not studying. This shows the still-visible relevance of the inactivity of young women when deciding to transit from the parental home to marriage or cohabitation.

Figure 8: Predicted probability of youth between 26-34 years of age living out of the parental home by gender and other household members' employment deprivation situation. 2005-2017



Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE).

4.2 The role of youth living arrangements on the levels of household employment deprivation

Regarding the determinants of household labor employment deprivation, we use Tables 4a and 4b to report the results of the SUR regressions. We confirm that emancipated individuals have a lower probability of being in households where employment deprivation is high, but this is clearly more the case for males than for females. For females, regardless of their labor status situations, the recession period increased the level of precariousness of their cohabiting members. However, this was not the case for males; for them, the impact of the recession on their cohabiting members' employment deprivation would have been smaller if they did not suffer from unemployment. This means that the concentration of unemployment and employment deprivation in certain households is affecting males more than females. Regional unemployment rates increase household employment deprivation for both females and males.

Table 4a: Seemingly unrelated regression results on household employment deprivation levels for females between 26-34 years of age. Spain. 2005-2017

	SUR		SUR		SUR	
	(4)		(5)		(6)	
Recession period	0.009	**				
Recovery period			-0.018	***		
cohabiting (1=yes)	-0.073	***	-0.084	***	-0.088	***
Labour market status (re: f-t permanent employment)						
Studying	-0.008	**	-0.019	***	-0.016	***
Inactive	0.024	***	0.021	***	0.028	***
Unemployed with experience	0.088	***	0.094	***	0.100	***
Unemployed (first job seeker)	0.105	***	0.073	***	0.098	***
Part timer - permanent	0.014	***	0.015	***	0.017	***
Part timer - temporary	0.033	***	0.030	***	0.037	***
Full timer - temporary	0.007	***	0.009	***	0.010	***
Self-employed	-0.006		-0.003	***	-0.003	
Interaction: recession x						
Studying	-0.021	***				
Inactive	0.007					
Unemployed with experience	0.026	***				
Unemployed (first job seeker)	-0.019					
Part timer - permanent	0.008					
Part timer - temporary	0.011	**				
Full timer - temporary	0.010	**				
Self-employed	0.006					
Interaction: recovery x						
Studying			0.016	**		
Inactive			0.025	***		
Unemployed with experience			0.020	***		
Unemployed (first job seeker)			0.069	***		
Part timer - permanent			0.007			
Part timer - temporary			0.025	***		
Full timer - temporary			0.005			
Self-employed			-0.005			
regional unemployment rate	0.005	***	0.006	***	0.004	***
Constant	0.074		0.079		0.095	
Age, age squared, quarter and regional dummies	Yes		Yes		Yes	
year dummies	No		No		Yes	
Observations	401.717		401.717		401.717	
F-Statistic	1,826		1,813		1,934	
R-squared	0.185		0.186		0.185	
Breusch-Pagan test of independence: chi2(1)	61.727 Pr = 0.0		66.609 Pr = 0.0		1863.316 Pr = 0.0	

Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for quarter and year together with regional dummies (NUTS-2) are also included in the regression as explanatory variables.

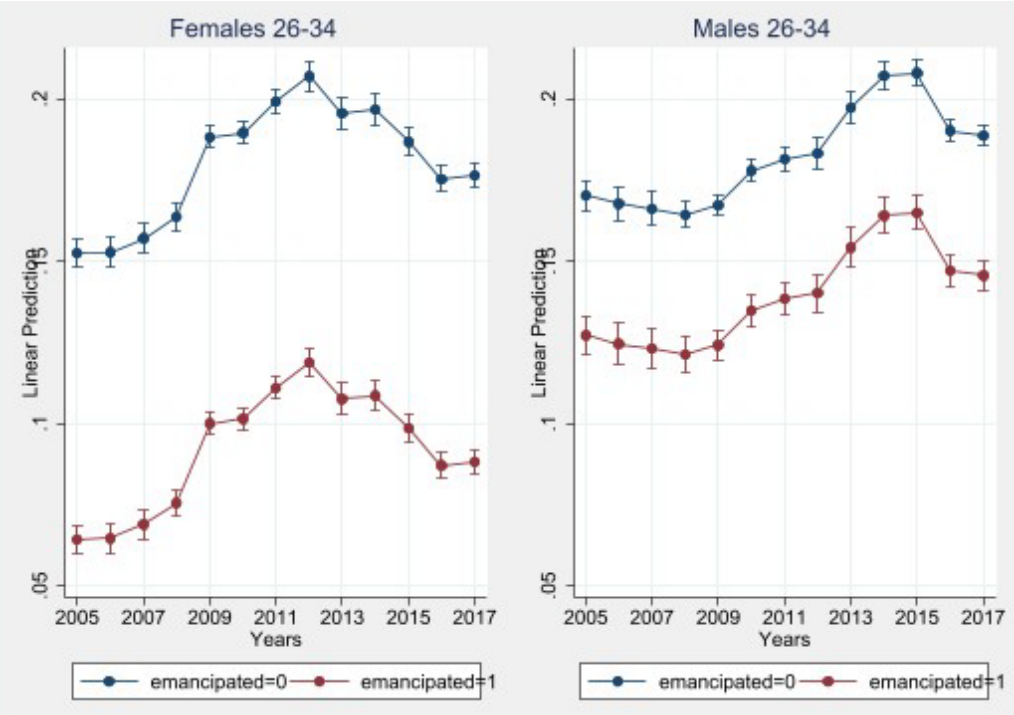
Table 4b: Seemingly unrelated regression results on household employment deprivation levels for males between 26-34 years of age. Spain. 2005-2017

	SUR		SUR		SUR	
	(4)		(5)		(6)	
Recession period	-0.023	**				
Recovery period			0.014	***		
cohabiting (1=yes)	-0.034	***	-0.033	***	-0.036	***
Labour market status (re: f-t permanent employment)						
Studying	-0.028	***	-0.022	***	-0.028	***
Inactive	0.021	***	0.020	***	0.023	***
Unemployed with experience	0.111	***	0.110	***	0.115	***
Unemployed (first job seeker)	0.088	***	0.034	***	0.064	***
Part timer - permanent	0.006		-0.002		0.007	
Part timer - temporary	0.037	***	0.036	***	0.041	***
Full timer - temporary	0.021	***	0.021	***	0.022	***
Self-employed	-0.021	***	-0.017	***	-0.020	
Interaction: recession x						
Studying	0.002					
Inactive	0.006					
Unemployed with experience	0.011	***				
Unemployed (first job seeker)	-0.055					
Part timer - permanent	0.003					
Part timer - temporary	0.015	**				
Full timer - temporary	0.006	**				
Self-employed	0.001					
Interaction: recovery x						
Studying			-0.017	**		
Inactive			0.013	**		
Unemployed with experience			0.022	***		
Unemployed (first job seeker)			0.080	***		
Part timer - permanent			0.024	**		
Part timer - temporary			0.019	**		
Full timer - temporary			0.010	**		
Self-employed			-0.016	***		
regional unemployment rate	0.005	***	0.004	***	0.004	***
Constant	-0.037		-0.027		-0.036	
Age, age squared, quarter and regional dummies	Yes		Yes		Yes	
year dummies	No		No		Yes	
Observations	411.003		411.003		411.003	
F-Statistic	737,380		737,840		691,780	
R-squared	0.067		0.067		0.065	
Breusch-Pagan test of independence: chi2(1)	242,250 Pr = 0.0		204,144 Pr = 0.0		287,699 Pr = 0.0	

Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for quarter and year together with regional dummies (NUTS-2) are also included in the regression as explanatory variables.

Based on our previous results, we can predict the employment deprivation levels for the 2005-2017 period of other cohabiting household members conditional on youth living arrangements (emancipated or living in the parental home). The results are depicted in Figure 9. We find that non-emancipated young males and females live in households where other household members are significantly employment deprived. For females, the recession increased the employment deprivation of other members by 25 percent (from 0.15 to 0.22 approximately), and the recovery only reduced it slightly (from 0.22 to 0.19).

Figure 9: Predicted employment deprivation levels of other cohabiting household members for youth between 26-34 years of age living in and out of the parental home. Spain. 2005-2017



Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE).

For males, the difference in the dimension of other members' employment deprivation depending on their living arrangements (emancipated or not) is somewhat smaller than for females. This is because emancipated females cohabit with other members who are less likely to suffer from employment deprivation, whereas in the case of males, even if they are emancipated, they tend to cohabit with more employment-deprived individuals. Interestingly, for non-emancipated males, the recession had a smaller impact on the increase of employment deprivation of other members of their household even if, as in the case of females, the predicted level of employment deprivation during the recovery years is higher than before the crisis.

5. Conclusions

For a period of persistent growth, previous analyses on youth living arrangements in Spain found a key impact of the "adapting to circumstances" attitude on youth cohabiting living arrangements: a large number of young individuals reduce their poverty risk by remaining at the parental home if both parents are employed, whereas another significant number of households reduce their poverty risk by adding cohabiting young workers' wages to their disposable income.

Using a large sample from the Quarterly Spanish Labor Force Survey we study the evolution and determinants of youth living arrangements for a complete business cycle, considering both individual and household employment deprivation information. Our results show that on average, the emancipation rate during the bust is only slightly higher than that during the boom. This is most likely to happen because the delay in observing individuals outside of their parental homes was highest in individuals over 34 years of age. Adding the recovery period in the analysis makes clear that youth living arrangements decisions occur with some delay in relation to the business cycle: it falls four percentage points in the recovery period compared to the bust, and three percentage points compared to the boom.

Our analysis deepens the study of the relationship between young individuals' living arrangements and other member's employment deprivation. We test the theoretical assumption about the irrelevance of other household members' employment deprivation on youth economic outcomes and living arrangements decisions. Our results confirm that using a particularly flexible employment deprivation indicator we clearly reject this assumption and find that other household members' employment levels and economic difficulties have strong effects on youth economic outcomes and living arrangement decisions. Thus, we can say that differences in youth parental cohabitation are not only related to individual labor market status but are also linked to the employment situation of other members of the household.

Interestingly, other members' employment deprivation has a non-linear effect on youth living arrangements. That is, if employment deprivation is low to middle, so that the relative weight of the number of hours that other household members work below their wishes is more than 20 percent and below 80 percent of the total potential working hours of active individuals, the probability of being emancipated is significantly lower than otherwise. The impact is larger for females for whom individual labor market status variables have a weaker impact on living arrangements in comparison to males. If households are highly employment deprived or jobless, it is, in turn, most likely that emancipation has already taken place, so individuals are not capable of helping their households to avoid poverty. A similar reasoning applies when we consider the role of severe poverty in determining youth living arrangements: severe poverty in Spain is more likely to affect young individuals who have already emancipated.

Data availability statement

The data used for the whole empirical analysis undertaken in this paper are available at the Spanish Statistical Institute (Instituto Nacional de Estadística, INE) on request. The original source is the Quarterly Spanish Labor Force Survey (Encuesta de Población Activa, EPA) from 2005 up to 2017, 52 quarters). Raw microdata of Quarterly Spanish Labour Force Survey EPA 2005-2017 are available at: https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176918&menu=resultados&idp=1254735976595#!tabs-1254736030639

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Appendix

Table A.1: Sample size (number of observations) by groups in the second quarter of the year. 2005-2011

	2005	2006	2007	2008	2009	2010	2011
Households	54.669	58.497	60.817	62.022	62.324	64.887	64.999
Individuals 0-15	24.208	25.202	26.186	26.341	26.115	26.912	26.856
Individuals 16-34	38.861	39.760	40.170	39.758	38.260	38.546	37.032
Individuals >34	90.949	96.631	100.318	101.999	102.024	106.862	107.078
All individuals	154.018	161.593	166.674	168.098	166.399	172.32	170.966

Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2005-2017. second quarter. Instituto Nacional de Estadística (INE).

Table A.2 Sample size (number of observations) by groups in the second quarter of the year. 2012-2017

	2012	2013	2014	2015	2016	2017
Households	65.552	66.005	65.76	64.609	62.949	63.119
Individuals 0-15	26.939	27.02	26.653	25.732	25.005	24.808
Individuals 16-34	35.597	34.704	33.468	31.701	30.081	28.735
Individuals >34	108.854	110.185	110077	108.443	105.747	105.841
All individuals	171.39	171.909	170.198	165.876	160.833	159.384

Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2005-2017. second quarter. Instituto Nacional de Estadística (INE).

Information in German

Deutscher Titel

Wohnformen jüngerer Menschen und Erwerbsarbeits-Deprivation in Haushalten: Evidenz für Spanien

Zusammenfassung

Fragestellung: Wir analysieren die Bedeutung von Deprivation in Bezug auf die Erwerbsarbeit und von starker Armut auf der Ebene von Haushalten für die Wohnformen jüngerer Menschen in Spanien in drei verschiedenen Konjunkturzyklen.

Hintergrund: Frühere Studien haben gezeigt, dass Wirtschaftskrisen in den südeuropäischen Ländern dazu führen, dass jüngere Menschen wieder mit ihren Familien zusammenziehen, um finanzielle Sicherheit zu erlangen. Dabei wird meist angenommen, dass im Wesentlichen nur der Erwerbsstatus von jüngeren Menschen für deren Umzugs-Entscheidung von Bedeutung ist, während der Erwerbsstatus anderer Haushalts-Mitglieder irrelevant ist.

Methode: Wir analysieren Daten der vierteljährlichen Arbeitskräfte-Statistik zwischen 2005 und 2017, die einen sehr flexiblen Indikator dafür bilden, die Erwerbsarbeits-Deprivation auf der Haushalts-Ebene sowie ihren Einfluss darauf, wie hoch die Wahrscheinlichkeit für die jungen Menschen ist, emanzipiert zu sein, zu messen. Dafür verwenden wir ein lineares Wahrscheinlichkeits-Modell. Um eine Fehleinschätzung der Richtung der Kausalität zu vermeiden, schätzen wir auch zwei anscheinend unzusammenhängende Regressionen zur Wahrscheinlichkeit des Zusammenlebens junger Menschen mit ihren Eltern und zur Dimension der Erwerbsarbeits-Deprivation von Haushalten.

Ergebnisse: Die Ergebnisse bestätigen, dass die Große Rezession die Wahrscheinlichkeit erhöht hat, dass junge Menschen mit ihren Eltern zusammenleben, mit einer gewissen Zeitversetzung in Bezug auf den Krisen-Beginn. Wir gelangen zu einer Ablehnung der Annahme, dass die Erwerbsarbeits-Deprivation anderer Haushalts-Mitglieder keine Relevanz für die Entscheidung junger Menschen hat, mit ihren Eltern zusammenzuziehen.

Schlussfolgerung: Politiken, die darauf abzielen, die Emanzipation jüngerer Menschen zu fördern, sollten nicht nur die Arbeitsmarktchancen jüngerer Menschen fördern, sondern sie sollten auch einen höheren Arbeitszeit-Umfang oder höhere Einkommens-Transfers für diejenigen fördern, in deren Haushalten die jüngeren Menschen leben.

Schlagwörter: Finanzielle Sicherung jüngerer Menschen, Zusammenleben mit Eltern, Arbeitszeit, starke Armut, Krisenzyklus

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