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Youth living arrangements and household employment deprivation: evidence from Spain

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Abstract

Economic difficulties during recessions affect young individuals' life projects and may delay emancipation and childbearing. For a period of persistent growth, previous analyses on emancipation in Spain found a key role of the "adapting to circumstances" attitude in youth cohabiting living arrangements: a large number of young individuals reduce their poverty risk by remaining at their parental homes if both parents are employed, and at the same time, a significant number of households reduce their poverty risk by adding cohabiting young workers' wages to their disposable income. Using individual and household employment deprivation information from an extensive dataset, we study the evolution and determinants of youth living arrangements and economic outcomes for a large period including a bust, a deep recession and a recovery. Our results show that in addition to individual labor market status, the employment deprivation levels of other active household members are key determinants of youth economic outcomes and living arrangements decisions all along the business cycle.

Keywords: youth, living arrangements; employment deprivation, poverty, business cycle.

JEL codes: D1, J12, I3

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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 and Malo, 2013; OECD, 2010). During the Great Recession, the situation worsened and by the end of 2014 a 38 percent of those under 30 were unemployed. Moreover, approximately half of the employed held fixed-term contracts, and almost 30 percent were in an undesired part-time job (Cebrián and 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 and 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 there is not only a delay emancipation during recessions but also some young people return to their family nests to avoid falling into poverty. This effect has been documented for other various European countries and for the United States (US) since 2008 (Ceballos-Santamaría and Villanueva, 2014; Fry, 2015). 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 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 youngsters to face extremely adverse economic conditions. If other author's results hold, recessions should imply that Spanish youngsters 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 a whole decade and three different business cycle periods we find an increasing youth emancipation pattern for individuals between 16 and 34 years of age as Ahn and Sanchez-Marcos (2017) sustain or, on the contrary, youth living arrangements patterns are similar to other crises: increasing their co-habitation probability (Martínez-Granado and Ruiz-Castillo, 2002; Ayllón, 2009; etc.). 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, SLFS), we will study the role of precariousness, joblessness, and severe poverty at the household level on youth economic outcomes along three different business cycle periods: a boom, a subsequent deep recession and a recovery period.

The main contribution of the paper is to confirm that using a particularly flexible employment deprivation indicator we can identify the relevant role of other household members' employment deprivation on youth economic outcomes and living arrangements decisions. 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 present our empirical strategy, and in the fourth section we present and discuss our main results. The last section concludes.

2. Living arrangements, precariousness, 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 and Moreno, 2018). Based on information from the 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, and for those under 35, it is greater than 20 percent, with a very clear increasing trend since 2008 (Figure 4).

< Insert Figures 1, 2, 3, 4 around here >

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 in temporary jobs (Güell and Petrongolo, 2007; Toharia and Cebrián, 2007; Cebrián and Toharia, 2008; García Pérez and Muñoz Bullón, 2011; García Pérez et al, 2014; Cebrián and Moreno, 2019).

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 and 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 the probability of youth emancipation (Becker et al, 2010).

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 youngsters decide to delay emancipation during the crisis but also some young people returned to their family nests to avoid falling into poverty (Ceballos-Santamaría and Villanueva, 2014). Indeed, it is not just youth emancipation that the risk of poverty affects (Aasve et al. 2005, 2007, 2013a, 2013b; Parisi, 2008); youth emancipation or living arrangement decisions also affect household poverty (Aassve et al., 2013). Leaving home increases the poverty entry rate of the remaining household members, thus pointing to the fact that the economic contributions of young people to the parental home prior to leaving are also important (Cantó and Mercader-Prats, 2001). For Spain or Italy, various studies have underlined that high housing prices are also key to deterring youth emancipation (Martinez-Granado and Ruiz-Castillo, 2002; Alessie et al, 2006) so that increasing housing price trends in the last decade will be also contributing to emancipation delay.

< Insert Figure 5 around here >

As we depict in Figure 5, 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

[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.

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 is now 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.

The evidence on youth living arrangements, poverty, and precariousness 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 poorer households, youth salaries play a key protective role for other co-residing family members by significantly reducing the family's poverty risk (Ayllón, 2009). The dimension of the recent crises has implied that youth face extremely adverse economic conditions. If Ayllon's results hold, recessions should have pushed them to turn to their families in search of financial protection. Previously strong family ties between the young and their families should have been reinforced and emancipation should have been delayed more than ever before (Sánchez-Galán, 2019).

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

3.1.1. Data and main definitions

We use data from the quarterly Spanish Labor Force Survey (*Encuesta de Población Activa*, EPA) to analyze youth living arrangements and precariousness for more than an entire decade (2005-2017). This is a large dataset that includes 150,000 observations per quarter, and 20,000 to 30,000 individuals between 16 and 34 years of age. The Spanish Statistical Office consistently provides it in a quarterly basis. Our final sample includes more than 800,000 native individuals. We refer to living arrangements as the situation where individuals live on their own as opposed to living with their parents. Thus, those who return to the parental home during a recession period will be included within the non-emancipated group, as long as they are below 35 years of age.

The Spanish Statistical Office (*Instituto Nacional de Estadística*, INE) has repeatedly collected the data we use here since the end of the 1960s.[2]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 (Ayllón, 2009), 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 use the EPA and thus consider three complementary definitions of lack of resources and precariousness that focus on a household perspective: low work intensity (underemployment), joblessness and severe poverty.

In this paper, we consider two youth age groups, those between 16 and 25 years of age, and those between 26 and 34 years of age, a key distinction 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.

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 and 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. Similarly, Gregg *et*

[2] Table A1 shows 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.

al. (2010) underline that household joblessness is an important factor in the transmission of the intergenerational effects of poverty given that parental income has significant effects on the future welfare of children.

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. This is a situation when active individuals in the household (different from the young individual) are employed below their employment potential. This measure captures jobless households and also those that are in in better positions but active members have few hours of work. In the extreme of the indicator we have jobless households. 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. In a similar way, this measure could affect youth living arrangements decisions more strongly than individual labor market status does.

Finally, following Ayala et al. (2017), we define severe household poverty as those individuals living in households where nobody receives income from work or benefits from social security. Thus, a young person 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 a 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, they will determine youth living arrangements' decisions. Furthermore, this measure of severe poverty is strongly linked to the idea of "disconnected households," which unfortunately has seldom been explored in the European context.

3.1.2. A measure of household labor market precariousness 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:

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

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 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 $u_i\left(g_{ij}^{\gamma}\right)$, which maps each individual employment gap profile into R_+ (where R_+ is the nonnegative real number set). Finally, the household employment deprivation index, $u_i\left(g_{ij}^{\gamma}\right)$, is:

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

where H_i^A is the number of economically active individuals (different from the young individual) in household *i* and $u_i\left(g_{ij}^{\gamma}\right)$ 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

[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 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).

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]

3.1.3. Multivariate analysis of youth economic outcomes and household employment deprivation

To identify the role of household members' labor precariousness 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:

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

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 the role of severe household poverty ($severe_{jt}$) in determining 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 $\log p_h$ are logged

[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.

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

mean housing prices at the regional level to control for differences in the macroeconomic conditions that may affect emancipation 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 emancipation decisions 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 and 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 considered 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 then confirm the "adapting to circumstances" result in Ayllón (2009). This is also true for the 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]

[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.

4. The determinants of youth living arrangements: the role of household precariousness 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 during the boom (one percentage point), half of that obtained by Ahn and 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 labor market status (for the individual and his or her household) and emancipation rates 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).

< Insert Table 1 around here >

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.

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, 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 reduction (1 percent) in emancipation rates between the bust and the boom. It also helps with determining 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 labor market status is a weaker determinant of youth living arrangements.

< Insert Table 2 around here >

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. As noted earlier, we include the interaction terms of both labor market status and all other household members' employment deprivation situations with the recession period, unemployment rates, and housing prices at the regional level. This is done to control for regional and temporal differences in the macroeconomic conditions that may affect emancipation 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 precariousness (household employment exclusion gap) 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

< Insert Table 3a and 3b around here >

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 also include regional unemployment rates, log regional housing prices, and quarterly dummies as controls. We know that youth living arrangements are different by gender and age, so we focus on those aged 26-34 in our main analysis.

The 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

depending on the individual labor market situation and other household members' labor market precariousness situations.

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. 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 onward (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 onward, and for males, this was true from 2013 onward—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 upward.

< Insert Figures 6 and 7 around here >

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, 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.

< Insert Figure 8 around here >

Regarding the determinants of household labor employment deprivation or precariousness, 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 particular households is affecting males more than females. Regional unemployment rates increase household employment deprivation for both females and males.

< Insert Table 4a & 4b around here >

Based on our previous results, we predict the employment deprivation levels of other cohabiting household members for youth living in and outside of the parental home for the 2005-2017 period. 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).

< Insert Figure 9 around here >

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 households even if, as in the case of females, the recovery predicted levels of employment deprivation are 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 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 confirm that adverse economic conditions, such as high rates of the temporary and part-time employment of other household members explain cohabiting patterns (i.e. youth turn to their families for financial protection if their parents are in better positions). The main contribution of the paper is to confirm that using a particularly flexible employment deprivation indicator we can see that other household members' employment levels and economic difficulties have strong effects on youth economic outcomes and living arrangement decisions. Thus, we confirm that differences in cohabitation with parents are not only related to individual labor market status but are also related to the employment situations 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, where 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. This result is interesting because it identifies a group of households where employed youth may not emancipate because they are contributing to the households' wellbeing. 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.

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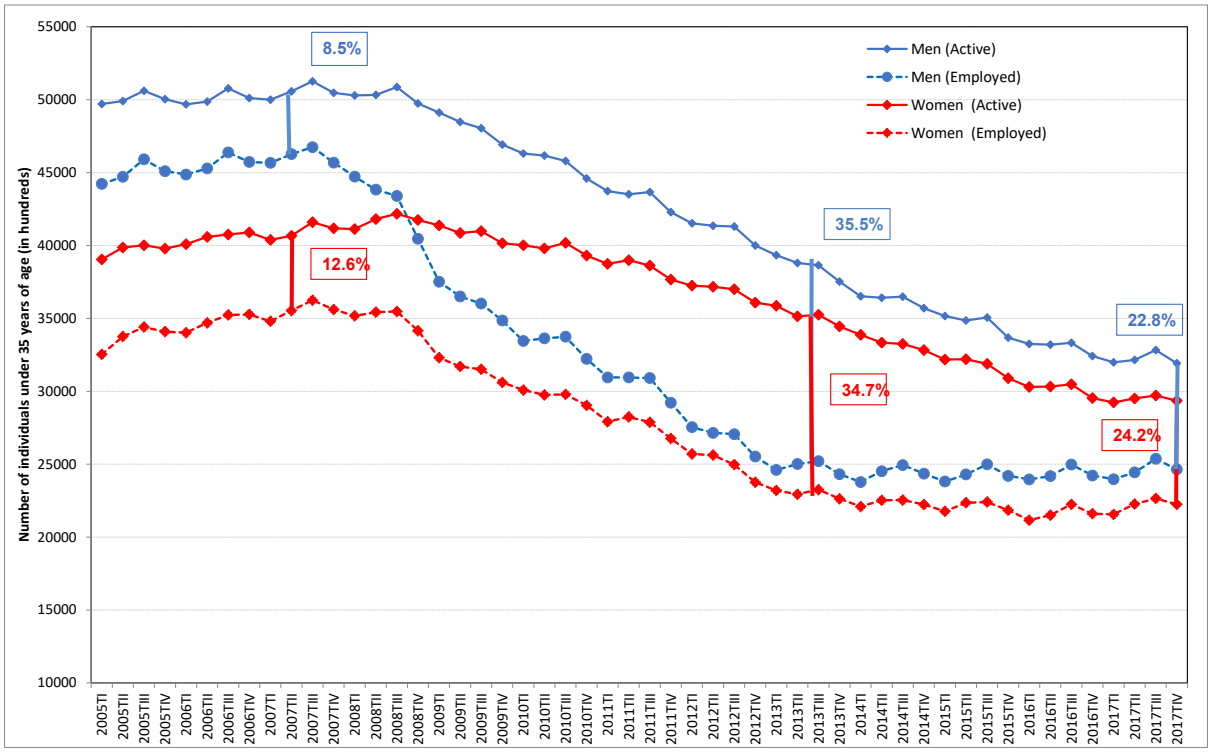
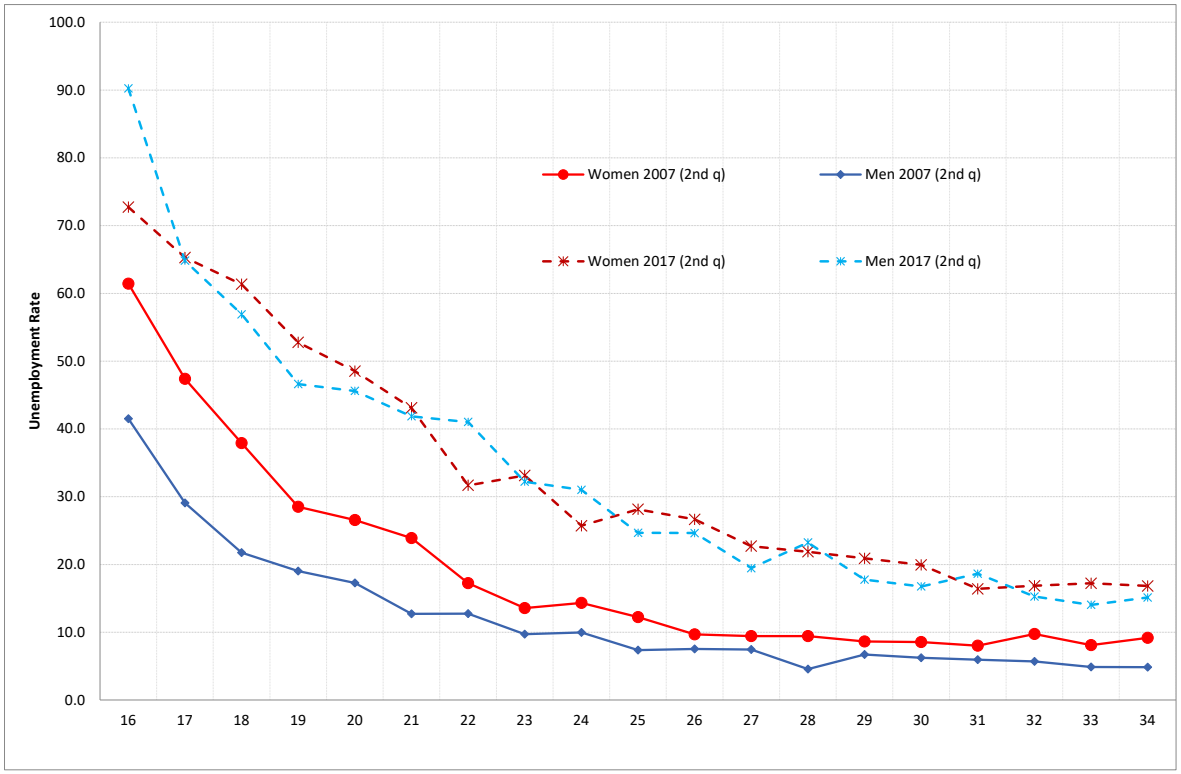
Tables & Figures

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



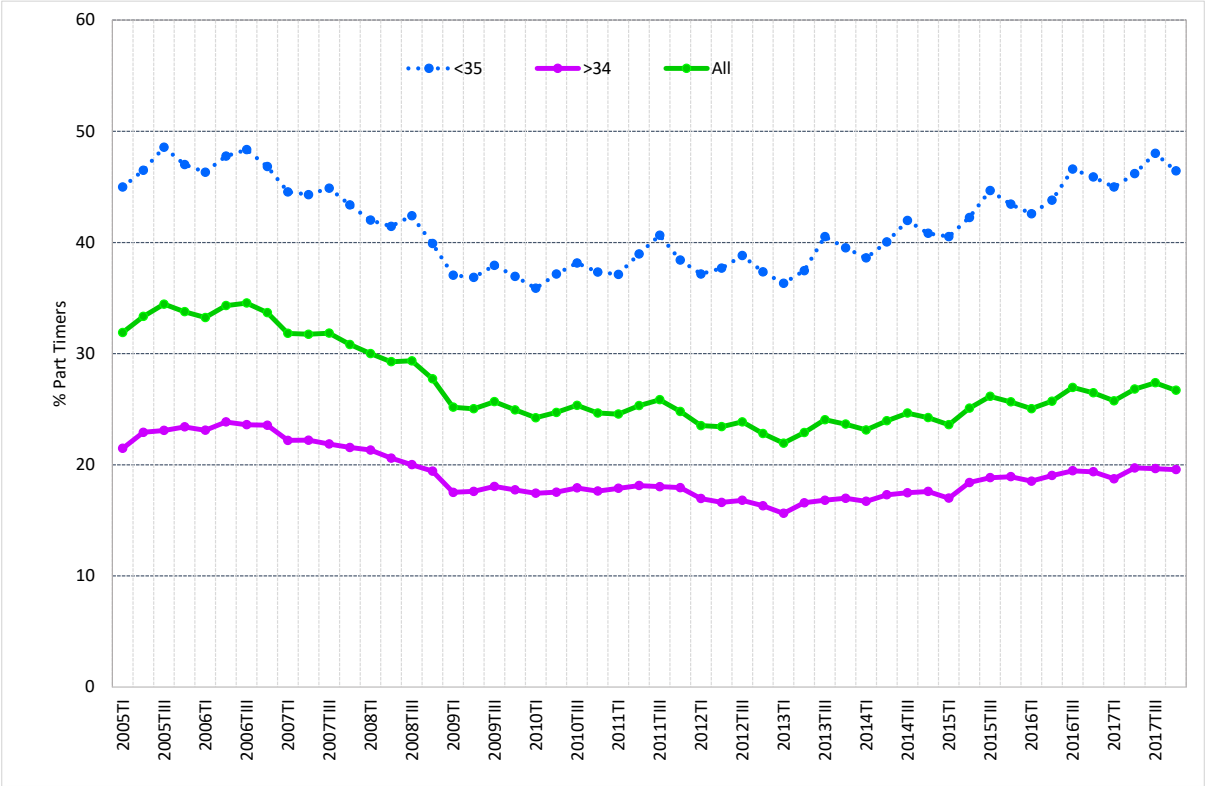
Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2005-2017. Instituto Nacional de Estadística (INE).

Figure 2. Youth unemployment rates by age and gender: 2007 versus 2017



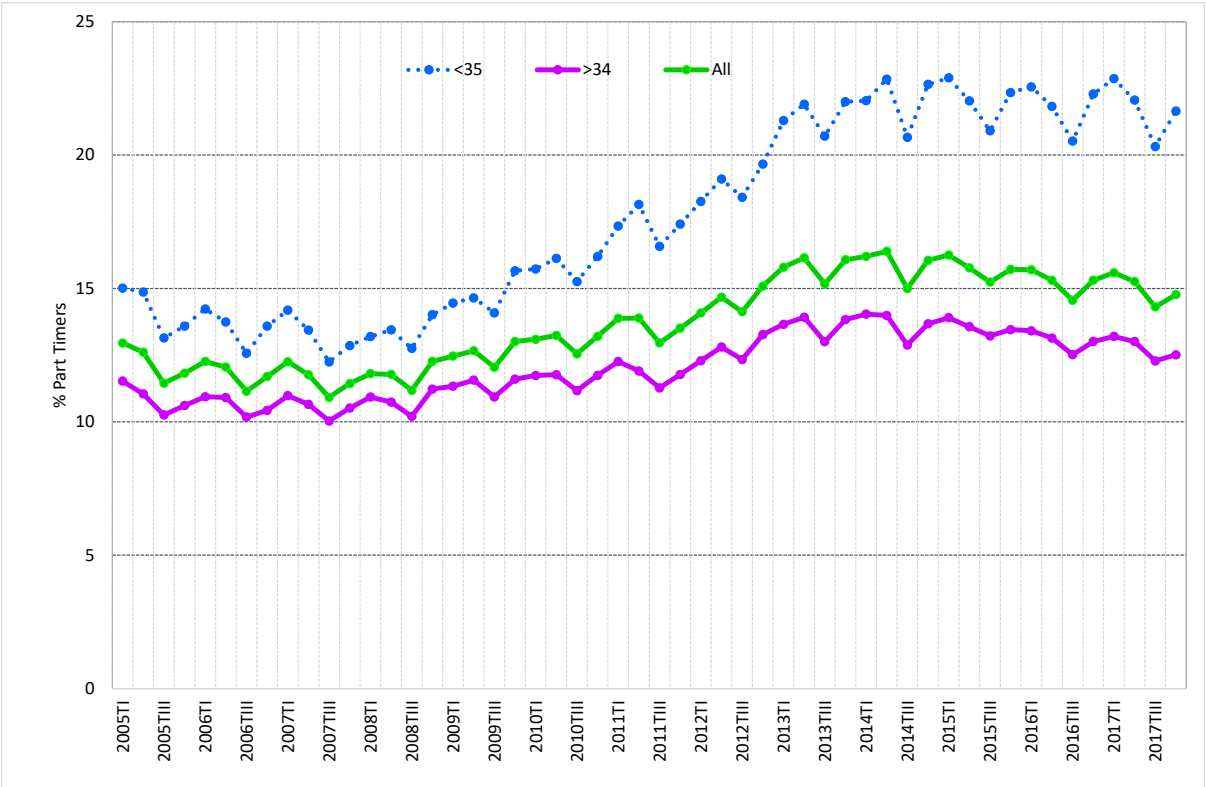
Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2nd quarter, 2007 & 2017. Instituto Nacional de Estadística (INE).

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



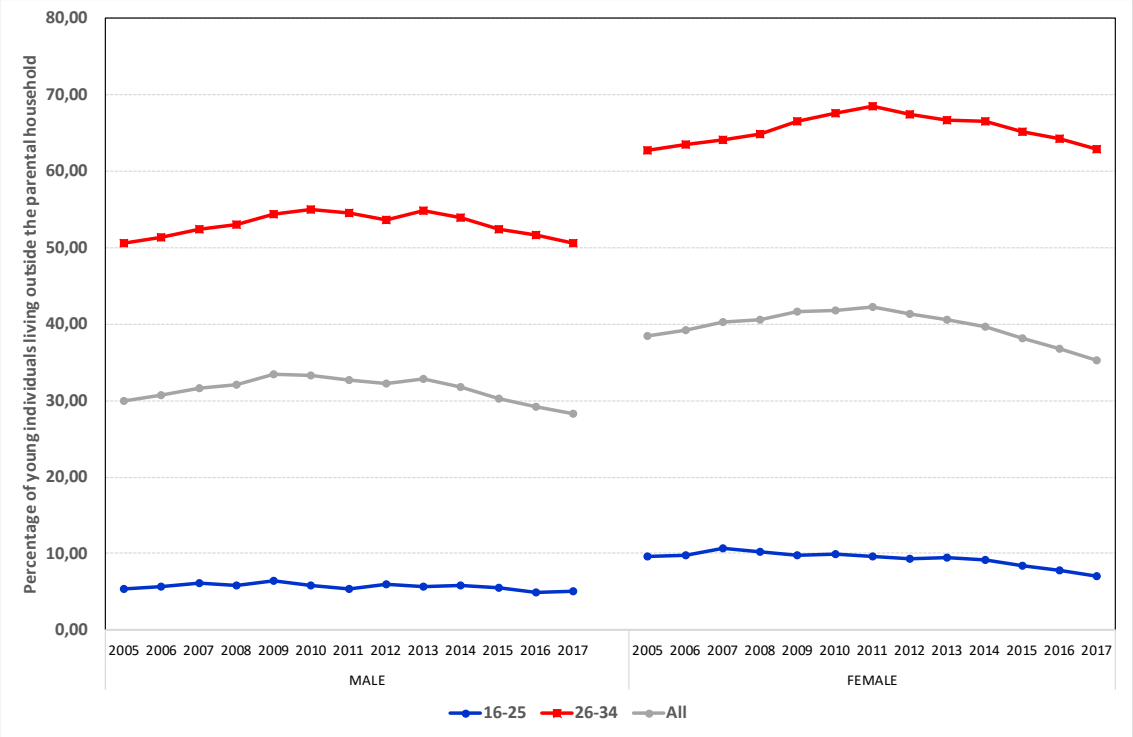
Source: Spanish Labour Force Survey (Encuesta de Población Activa, EPA), 2005-2017. Instituto Nacional de Estadística (INE)

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)

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)

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).

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).

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	***	-0.471	***	-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	***
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	Yes	No	No	Yes
Observations	401,717	401,717	401,717	401,717	401,717	401,717
F-Statistic	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	***
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							0.420					

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		Yes		No		No		Yes	
Observations	411,003		411,003		411,003		411,003		411,003		411,003	
F-Statistic	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: 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 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.

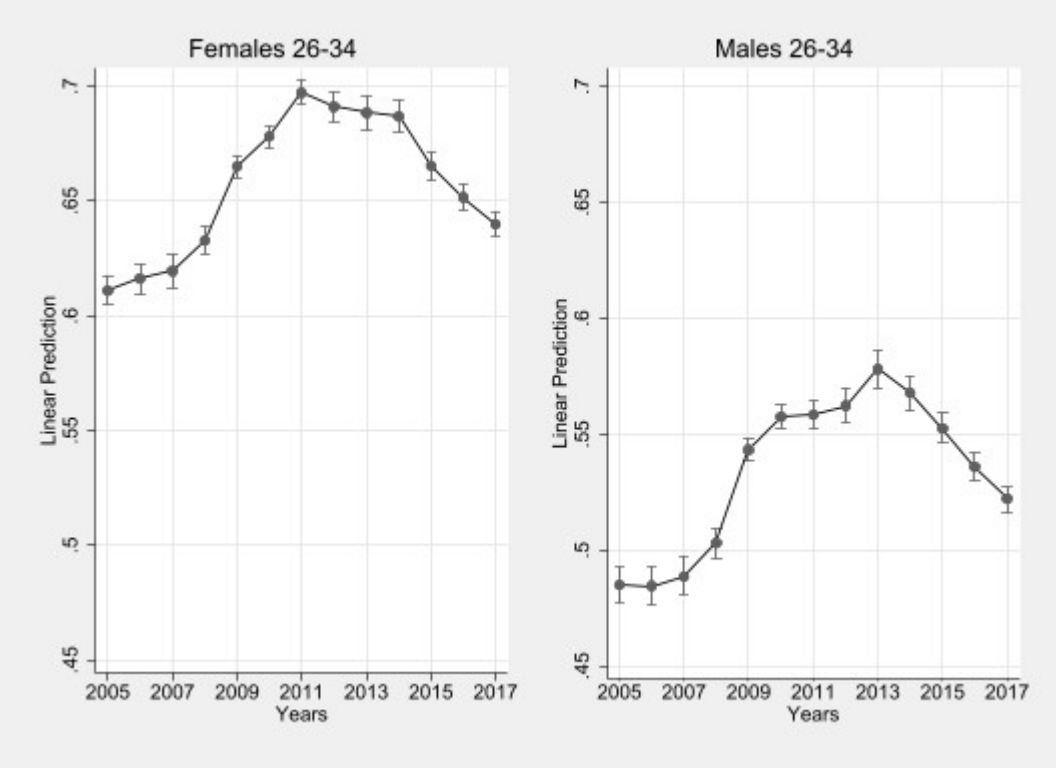
Table 4b. Seemingly unrelated regression results on household employment deprivation levels for males between 26-34 years of age. Spain. 2005-2017

	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

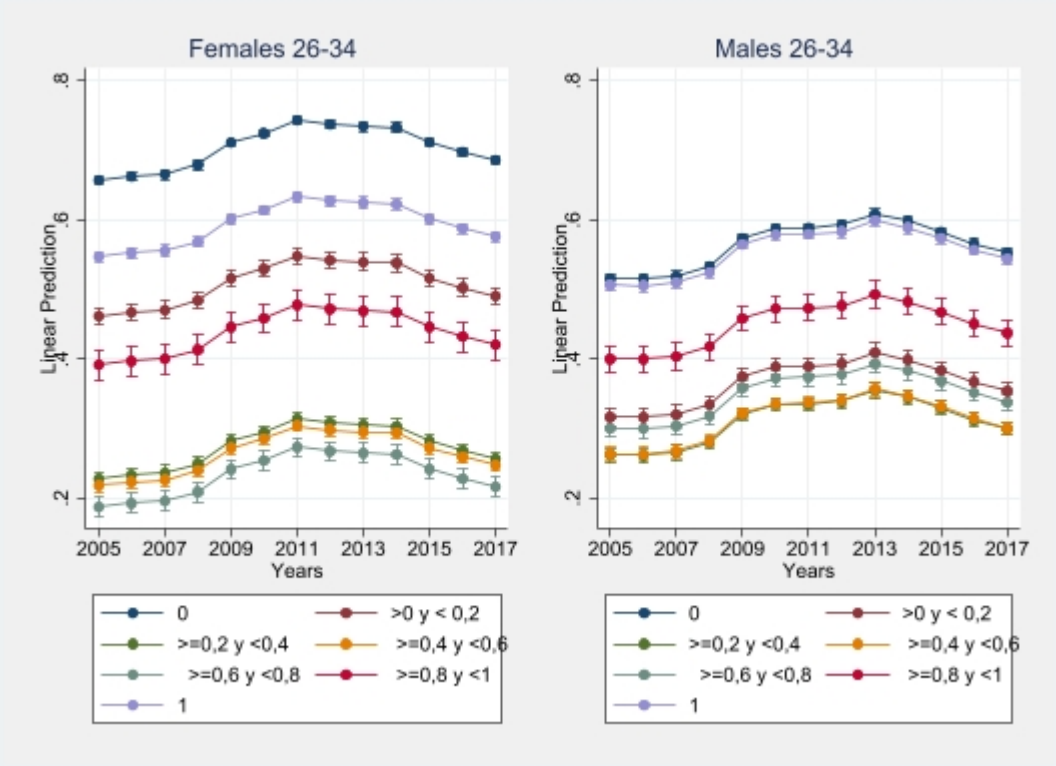
Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE). Control variables for quarter and year together with regional dummies (NUTS-2) are also included in the regression as explanatory variables.

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



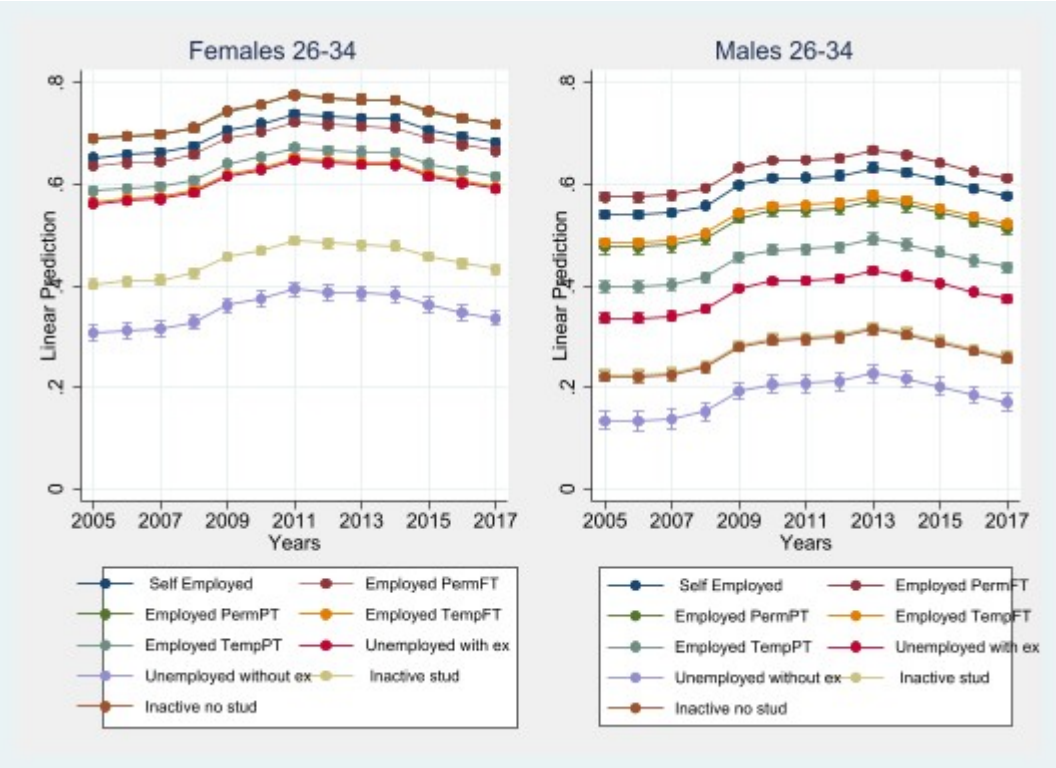
Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE)

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



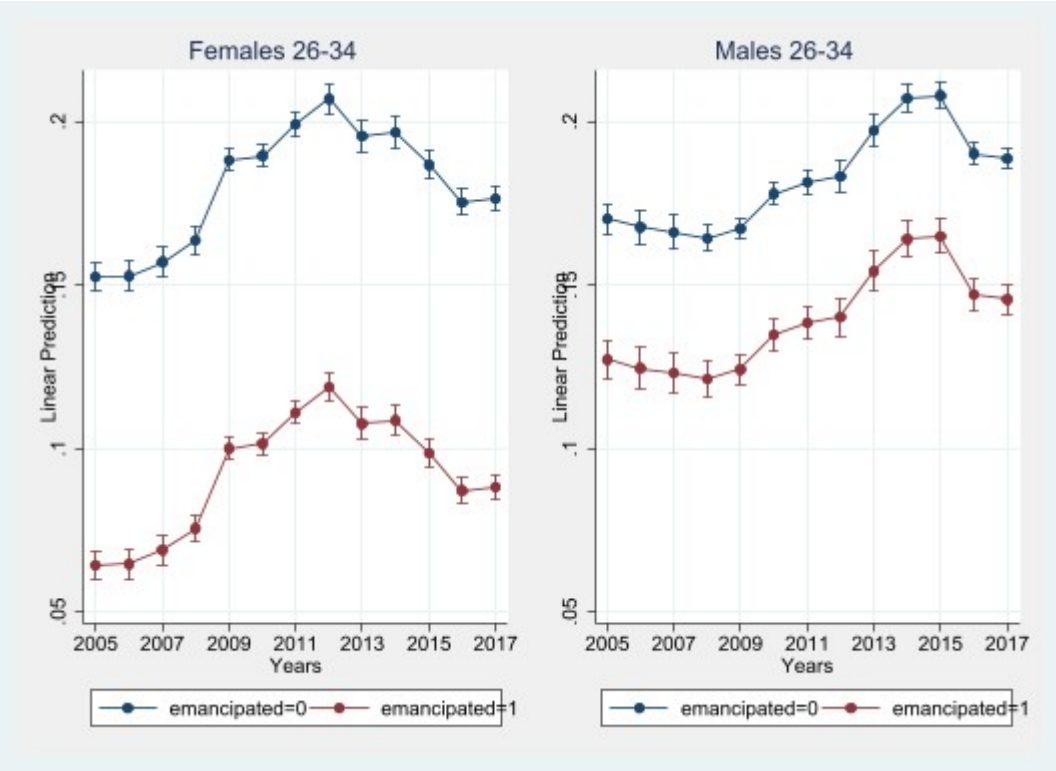
Source: Spanish Labour Force Survey (Encuesta de Población Activa. EPA). 2002-2017. Instituto Nacional de Estadística (INE)

Figure 8. Predicted probability of youth between 26-34 years of age living out of the parental home by gender and individual labor status. 2005-2017



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

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)

APPENDIX

Table A1. Sample size (number of observations) by groups in the second quarter of the year

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Households	54.669	58.497	60.817	62.022	62.324	64.887	64.999	65.552	66.005	65.76	64.609	62.949	63.119
Individuals 0-15	24.208	25.202	26.186	26.341	26.115	26.912	26.856	26.939	27.02	26.653	25.732	25.005	24.808
Individuals 16-34	38.861	39.760	40.170	39.758	38.260	38.546	37.032	35.597	34.704	33.468	31.701	30.081	28.735
Individuals >34	90.949	96.631	100.318	101.999	102.024	106.862	107.078	108.854	110.185	110077	108.443	105.747	105.841
All individuals	154.018	161.593	166.674	168.098	166.399	172.32	170.966	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).