Youth living in a couple. How women's labour supply adapts to the crisis. The case of Spain.

Tindara Addabbo, Paula Rodríguez-Modroño and Lina Gálvez-Muñoz

> CAPPaper n. 114 Maggio 2013



# Youth living in a couple. How women's labour supply adapts to the crisis. The case of Spain.

Tindara Addabbo\*, Paula Rodríguez-Modroño\*\*, Lina Gálvez-Muñoz\*\*\*

- \*Dipartimento di Economia Marco Biagi, Universitá degli Studi di Modena e Reggio Emilia, viale Jacopo Berengario, 51, 41121 Modena (Italia), tindara.addabbo@unimore.it
- \*\* Dpto. de Economía, Métodos Cuantitativos e Historia Económica, Universidad Pablo de Olavide, Ctra. De Utrera, Km. 1, 41013 Sevilla (España), prodmod@upo.es
- \*\*\* Dpto. de Economía, Métodos Cuantitativos e Historia Económica, Universidad Pablo de Olavide, Ctra. De Utrera, Km. 1, 41013 Sevilla (España), lgalvez@upo.es

#### **Abstract**

The focus of this paper is on the effects of the Great Recession on young women's labour supply decision. Given the deep effect of the Great Recession on the Spanish labour market and in particular on youth labour supply, in the empirical part of this paper we focus on the Spanish labour market and estimate women's labour supply models by age groups, with a special focus on those aged 20 to 29 and 30 to 39 to detect how young women living in couples show different labour supply probabilities according to their partner's labour market status by using EU-SILC 2007 and 2012 micro data for Spain. We correct also for the non random selection of women living in couple in the younger age groups. This first step of analysis allows us to detect a negative effect, on the likelihood of forming a new household, of precarious employment conditions. The results of our analysis on women's labour supply by age group confirm the discouragement effect of young children for the youngest mothers' labour supply and also a positive effect of being an owner of a house with a mortgage.

The literature shows that different effects can be at work with the crisis: the added-worker effect (AWE), showing a countercyclical behaviour of labour supply that implies an increase in individual labour supply in response to transitory shocks in his/her partner's earnings, and the procyclical discouraged-worker effect. The results of our estimation support the existence of AWE in 2012 for young women living in couples. If in 2012 the discouragement effect dominates only for women older than 40, in 2007 it dominates also amongst younger women. Women's higher propensity to enter the labour market when their partner becomes unemployed or is persistently unemployed coupled with their likelihood to be inactive in the presence of young children would call for labour market policies targeted towards young women who are also more likely to withdraw from the labour market in presence of children. Childcare facilities could mitigate the latter effect and produce a more continuous workprofile thus avoiding the negative effect of work experience interruptions on labour supply over women's life cycle.

**Keywords:** Labor supply, Great Recession, Gender, added-worker effect, discouraged-worker effect, youth labor supply.

**JEL codes:** J22, J21, J16, J64

#### Introduction

The current recession has particularly hit young people, showing the structural difficulties they face in the transition to the labour market and the lack of the adequate mechanisms and resources for facilitating youth entry in the labour market. In the Spanish case, comparative data shows a very dramatic situation. The most recent Eurostat data for 2013 shows a 55.7 per cent youth unemployment (15-24) in Spain, almost doubling that of the whole Spanish population and the European average of 23.2 per cent. Young workers are not only far more often unemployed, but also far more likely to be in flexible, non-standard employment, such as temporary jobs, compared to the rest of the workforce. 65 percent of young workers in Spain are in fixed-term jobs (compared to EU27 of 42.6%), and more than 80% of those employed in a temporary job is so because they cannot find a permanent one.

Women start more often in a double fragile position, that is, with a temporary and part-time job. Also, the transition from education to a first stable job is shorter for males than for females in all countries and the length of the transition period is larger in Spain than in the rest of Europe. NEET rates (defined as the percentage of the population of a given age group who is not employed and not involved in further education or training) are usually higher for females due to the inactive component of NEETs, though not in Spain any longer, due to the higher drop in employment and activity for young men than for women. Male discouragement has been higher than female one during the crisis (Addabbo et al., 2013).

In fact, the current economic recession is changing some previous patterns, especially when controlling for gender differences. Historically, women's fewer labour opportunities, lesser human capital formation and specialisation in unpaid care made labour behaviour more dependent on their partner labour market participation and performance than the other way around (Gálvez and Rodríguez-Modroño, 2011). Resulting in lower activity rates, shorter and more discontinuous working lives and all the consequences for their well-being and professional development associated to those choices. However, decreasing fertility rates, increasing educational levels and the effects of equal opportunity policies in one hand, and changing labour market conditions on the other hand, may result in changing behaviours for both men and women (Gálvez and Rodríguez Modroño, 2013), especially among younger population. In fact, all over Europe, continuous full-time work is becoming less frequent. Instead, flexible forms of employment such as part-time work, fixed-term contracts, and selfemployment are gaining importance (European Commission, 2010a). These trends have already strong impacts at labour market entry level, resulting in prolonged school-to-work transitions and increasing difficulties in becoming established in the labour market. Although these trends are visible in most of the European Member States, there are large differences across Member States concerning labour market flexibility and the insecurity and uncertainty young people are facing (Plantenga et al., 2013).

In this context, how is young women's and men's labour supply behaviour changing? The focus of this paper is on the different effects of the Great Recession on young women's labour supply decision in Spain. Though with the crisis the estimated average age of young people leaving their parental households increased (from 27.5 for

women in year 2007 and 27.9 in 2012 and from 29.2 for men in 2007 to 29.9 in 2012)<sup>1</sup> and their labour supply behaviour can be affected by other members of the family employment condition and household's income, this paper will focus on young women living in couples and will try to detect their labour supply behaviour controlling for the socioeconomic composition of their family with special reference to the presence of children and to the increase in regional unemployment rates and their partner's employment status by comparing two different years: a pre-crisis and the current situation.

The literature shows that different effects can be at work with the crisis: the added-worker effect (AWE), showing a countercyclical behaviour of labour supply that implies an increase in individual labour supply in response to transitory shocks in his/her partner's earnings, and the procyclical discouraged-worker effect (DWE).

To analyse the different behaviour entering the labour market by gender in one of the most hit countries in the EU in terms of employment has important theoretical and policy implications. On the one hand, it allows to advance on the relationship among economic cycles and crises and labour supply by gender; on how are the transitions from school to labour in a new economic and institutional context oriented towards a major flexibility; and it facilitates an evaluation of how social welfare systems vary in the effectiveness of their support for different groups especially defined by gender and age or generation.

On the other hand, it has important policy implications at an individual level and at a national/regional level. At the individual level, events occurring at one point in time may affect events and transitions at a later time, such that almost any individual decision - such as investing in human capital, participating or not in the labour market, withdrawing temporarily or permanently from the labour market, choice of working time arrangements, allocation of time between competing activities, cohabitation/marriage or fertility decisions – has longer-term consequences for the life course. Path dependency at individual level can be combined with path-dependency at a national level (Anxo et al., 2010). In fact, at the national level, the increase in precarious jobs and non-employment among young people implies high costs for society, related to the waste in human capital of youth. Growth prospects are thereby reduced, also because of the risks of brain drain; the risk of poverty increases, as well as income inequalities within and across generations; and, budget costs related to low fiscal revenues and high social expenditures increase (Plantenga et al., 2013). The higher unemployment rates or underemployment of young educated females and lower fertility rates have also important impacts on competitiveness and economic and social sustainability.

This paper is organised as follows. The first section reviews the literature on youth labour supply by gender during recession periods and the current economic crisis; the second part describes the youth labour market performance in Spain by gender during the Great Recession; the third one presents the model and the data set focuses on the Spanish labour market and estimates women's labour supply models by age groups, with a special focus on those aged from 20 to 29 and from 30 to 39 to detect how young women living in couples show different labour supply probability

\_

<sup>&</sup>lt;sup>1</sup> Source Eurostat metadata Tyth demo 0307.

according to the labour market status and their partner's employment condition by using EU-SILC 2007 and 2012 micro data for Spain; the forth one shows the results obtained; and the fifth one concludes.

#### 1. Youth labour supply, gender and crises

Although there is an increasing interest on youth labour supply behaviour and performance during the economic crisis, especially from international institutions (ILO, 2012; European Commission, 2010a, 2010b, 2012a, 2012b; Eurofound, 2011a, 2011b, 2012a, 2012b), specific gender analyses are still rare. Gender differences are also ignored in most of the recent policy debates and in the measures taken to fight youth unemployment. <sup>2</sup> This gender-blindness might endanger the efficiency and effectiveness of labour policies since they have very different effects for young men and women due to gender segregation in education and employment and gender differences in access to social protection and unpaid work load.

Work and life transition for youth have been widely analysed in the literature since one of the consequences of 'starting fragile' might be a problematic transition into work, which will have long lasting 'scarring effects', reducing future career, training and income opportunities (e.g. OECD, 2002). A fragile start may have long-term consequences and high individual costs, hampering the opportunities to start an independent life and increasing the risk of poverty. On a more general level, it may also impact outcomes such as happiness, job satisfaction and health (Plantenga et al., 2013). In addition, a fragile start could have consequences which go beyond the direct labour market effects and the important personal costs, such as national or regional important aggregated economic costs.

On the work transition side, few different aspects have been analysed such as the incidence of long term unemployment and the differences among USA and European countries (Quintini and Martin, 2006; Quintini and Manfredi, 2009), the relation with the wage skill premium (Felgueroso et al., 2010), the incidence of the educational system, or the over and under qualification of workers and how both types of mismatch affect workers in different countries (Quintini, 2011) or the incidence of temporary jobs in unemployment and school to work transition. This last aspect is especially important when analysing the Spanish case, due to high temporality and volatility among youth workers (Dolado et al., 2013b). When the only available jobs are temporary ones, young persons face a high risk of becoming unemployed, as the empirical evidence shows that this is the case for Spain, where most temporary jobs do not end up becoming permanent ones, and this phenomenon has being reinforced during the current recession.

On the life transition side, different aspects have also been treated such as the relation of economic recession and fertility (Sobotka et al., 2011)<sup>3</sup>, or the adequacy of

<sup>3</sup> In the overview of the literature elaborated by Sobotka et al. (2011) and included in Plantenga et al. (2013), during a recession the choice to start a family is postponed, particularly in case of first birth. According to these authors, recessions have a mixed impact in terms of the number of births. Unemployment may lower the female opportunity costs, as a result of which unemployed women may be more inclined to start a family. This is particularly the case for low-skilled women; highly skilled women will probably focus more on reintegration as they face greater loss in terms of skill degradation

<sup>&</sup>lt;sup>2</sup> The study 'Starting Fragile' by Plantega et at. (2013) is an exception.

welfare systems' response to the changing needs for support at these critical stages of life that shape future life course prospects (Anxo et al., 2010), all related with the life transition process of family formation or an independent life. Being unemployed will have a negative impact on leaving the family home and might frustrate any attempt to start a family.

The fragile economic status has a strong impact on the opportunity to leave the family home related to constraints on housing and on access to resources as analysed among others by Giannelli and Monfardini (2003), Manacorda and Moretti (2006), Mencarini and Tanturri (2006), Karamessini (2008), Schmitt (2008), Chiuri and Del Boca (2010), Modena and Rondinelli (2011) and Addabbo and Kjeldstad (2013). For Anxo et al. (2010) transitions to independence of young people are becoming increasingly dependent on family income and wealth, even taking into account important national differences related to the social norm encouraging early departure from the parental home and parental income effects (Iacovou, 2011).

All these factors combined may be both leading to more erratic employment paths over the life course and more variable life course stages, including, for example, postponements in transitions to independent family formation and parenthood in contexts where it is more difficult to make the transition to stable employment or to independent housing and deeply determining labour supply decision by gender especially among youth.

The limited insight into the analysis of youth labour supply in a gender perspective in the literature contrasts with the rich literature of gender and economic crisis and economic cycles, especially regarding labour supply behavior and the impact of the crisis not only in paid work but also on the unpaid domestic work performed by women, noticing that this work 'took up the slack' during the crisis and allowed for the survival of many families at the expense of the intensification of women's work. The analyses on the impact of the present recession on European countries (Arpaia and Curci, 2010; Bettio et al., 2012; Karamessini and Rubery, 2013) show evidence of the discouraged worker effect DWE (thereafter DWE) for both sexes, but also the presence of a high added worker effect (thereafter AWE) for women. In the Spanish case the AWE also predominates (Addabbo et al. 2013). However, there is always a considerable heterogeneity in women's response regarding the labour market and we always need to take into account intra-gender differences and analyse the vulnerability of the various types of women and their relative position in the labour market according to their age, educational level, household income, etc. (Rodríguez-Modroño, 2012). Therefore, in this paper we analyse the differentiated gender effects of the recession on youth labour supply and living arrangements in Spain and whether young women are also experiencing an AWE.

and lost opportunities (Schmitt, 2008). However, in the case of Spain, the number of births has sharply decreased since 2008 by more than 5,000 (see Gálvez and Rodríguez-Modroño, 2013).

6

## 2. Youth labour market performance in Spain by gender during the Great Recession

Young people are one group particularly hit by the economic crisis and austerity crisis management, as shown by the high and increasing unemployment rates (Figure 1), reversing the positive sign shown before 2007 with the economic expansion and construction boom. Spain entered the 1990s with a 45 per cent youth unemployment rate, the rate fell to 22 per cent in 2000 and reached 46 per cent again by 2010. Its current level is close to the Greek one; however, as stressed in Dolado et al. (2013a) this has occurred with a lower negative trend in GDP growth. The danger of a 'lost generation' is becoming a startling reality, since the youth labour market is significantly more sensitive to the business cycle than that of adult workers. Indeed, Spain has the most volatile employment rates for all male cohorts (Dolado et al., 2013b), especially among young adults aged 20-29, whose employment rates fell by almost 20 percentage points during the crisis, partially due to their concentration in the construction sector, 28% of youth male employment in 2007. Furthermore, it also has the most volatile employment rates for young females and their drop during the crisis is larger than anywhere else.

Just looking at the unemployment rates (Figure 1) young males have been more strongly affected by the last recession than young females. Before the recession the male youth unemployment rate was significantly lower than its female counterpart in Spain and most European countries. But this relationship has changed since during the recession the male youth unemployment rates increased more than the female rate in Spain and in almost all EU countries.

#### [Figure 1 about here]

As Table 1 shows the changes have been wider in the 20 to 24 years old group between 2007 and 2012. Unemployment rates decrease with age, being higher in 2012 for men in the 20-24 years old group and for women in all the other age groups below 40.

#### Table 1 about here

In addition, the changing labour market conditions, with flexible forms of employment, make the position of young persons, especially women, very fragile. Women start more often in a double fragile position, that is, with a temporary and part-time job. Young females' part-time employment as percentage of the total employment has increased in Spain from 31.1 in 2007 to 47.1 in 2013. Spanish youth are subject to more frequent transitions from employment to non-employment than the youth elsewhere and a relatively large share of these transitions stem from the termination of temporary contracts. The economic and employment crisis has not only increased the proportion of young temporary workers in Spain –from 62.8 in 2007 to 65 in 2013-, it has also increased even further the already high worker turnover in Spain. The average length of a temporary contract in Spain in 2013 was 54.7 days, compared to 78.6 days in 2007. This upward trend in flexible, non-standard

employment is reported unanimously across EU countries and has been made possible by changes in the employment protection laws in most countries<sup>4</sup>.

Furthermore, discouragement resulting from the lack of job opportunities has raised the inactivity rate, so that the young people not in employment and not in any education and training (NEET) rate<sup>5</sup> has reached 22.8% in 2013 in Spain, 15.8% in EU27. The changes over time in the NEET rates provide a useful indicator of the difficulties that youth encounter in the transition from school to work. Especially high are NEET rates for young women with low education in Mediterranean countries, such as Spain (Plantenga et al., 2013). The study of Bruno et al. (2013) on European regions found the highest persistence of NEET rates, as well as youth unemployment rates, and the lowest response to GDP in Southern European regions and consistently outline the need to match active and passive labour market policies. Furthermore, Bruno et al. (2013) point out that, overall, male NEET rates seem more responsive to GDP changes than female NEET rates and an attenuation of the difference occurred over the crisis.

#### [Figure 2 about here]

NEET rates are usually higher for females due to the inactive component of NEETs, though not in Spain any longer, due to the higher drop in employment and activity for young men than for women. As Figure 3 displays, male discouragement has been higher than female one during the crisis. The highest drop in active numbers has been for the youngest generation. In fact, enrolment rates in the Spanish education/training system have increased, though it may decline in the following years due to the rising prices of education and the reduction of scholarships. Only people older than 30 years old, mostly women, have experienced an increase in activity.

#### [Figure 3 about here]

Also, the transition from education to a first stable job is shorter for males than for females in all countries and the length of the transition period is larger in Spain than in the rest of Europe. Since there is an extensive literature showing that a long spell of unemployment at the start of working life tends to have persistent negative effects, either in the form of a lasting wage penalty or a relatively poor employment record later in life (Bell and Blanchflower, 2010; Scarpetta et al., 2010), the scarring effects of this recession are particularly relevant in a country like Spain with persistently high and very volatile youth unemployment rates and, especially for women.

<sup>&</sup>lt;sup>4</sup> In Spain, three labour reforms with the aim of increasing flexibility have taken place during the crisis, in June 2010 and June 2011 by the socialist government and in February 2012 by the conservative government.

<sup>&</sup>lt;sup>5</sup> NEET rate is defined as the percentage of the population of a given age group who is not employed and not involved in further education or training. The concept of NEET is related to youth unemployment and inactivity not due to education and training; furthermore, while youth unemployment refers to the economically active population, the NEET rate is based on the population as a whole. As a result, NEET rates may be lower than unemployment rates.

In addition, this increased complexity and difficulty in the transition from youth to adulthood is increasing the social risks of young people and hardening their degree of autonomy and probability of leaving the parental home. Though, in Southern European countries, such as Spain, young people leave the parental home quite late and welfare benefits are less generous, latest data from the Spanish Council for Youth of the Ministry of Health shows that emancipation rate of 16-30 year-old young people has further decreased since 2010, and by 7 percentage points only in 2012-13. The literature on youth living arrangements shows quite neatly that housing and employment conditions are crucial factors in affecting youth living arrangements<sup>6</sup>. In 2008 a housing allowance for young people (RBE, Renta Básica de Emancipación) was introduced, increasing in 8 percentage points the emancipation rates of the entitled groups of males and females (22-29 years) between 2008 and 2011 (Dolado et al., 2013b). However, it was abolished in 2012 as one of the measures to reduce public deficit. Thus, the emphasis on costs containment and fiscal consolidation, the current social policies seem to reduce the support system of young persons, implying that they remain (longer) dependent upon their families.

Indeed, family support maintains social cohesion when individual opportunities through the market fail. Spain is still lagging behind in social expenditure, which is 8% points lower than the EU average. That means, the tensions between the employment and the social model have not been resolved by social policies (Miguélez and Recio, 2010). From a gender perspective, the main risk seems to be that young women – particularly the lower skilled—might be forced to be full-time carers. As a result, their distance from the labour market will increase, which will seriously hamper their long-term perspective in terms of career and income.

As shown in Table 2, amongst the 7,470 20-39 years old individuals in the EU SILC 2012 sample the majority of men (45%) live in their parental house, while 40% live in couple. Amongst women, 53% live in couple and 36% live with their parents. The vast amount of youth living with parents is higher for the youngest (almost all men and 85% of women live with their parents when aged 20 to 24 years old) and falls to 24% for men and 15% for women in the elder age group (30 to 39). Young men are more likely to live with their parents at any age group.

#### Table 2 about here

In this context, how is young women's labour supply behaviour changing? As shown by unemployment rates by gender (Table 1) both men and women unemployment rates reach the highest level when they are 20 to 24 years old and, thereafter women's unemployment rates dominate men's. The literature on female labour supply shows two different effects occurring when women living in couple face a high probability that their partner is unemployed. Considering the high unemployment rates for youth in Spain, the likelihood of living in a household with a reduced number of earners sharply increased with the crisis in Spain.

We therefore aim to analyse how women living in couple react in terms of labour supply to the increase in regional unemployment rates and their partner's

<sup>&</sup>lt;sup>6</sup> These effects have been shown, among others, by three studies on youth living arrangements in Italy by Giannelli and Monfardini (2003), Modena and Rondinelli (2011), and Addabbo and Kjelstad (2013).

employment status by comparing two different years: a pre-crisis and the current situation. However, given the change in youth living arrangements, we need to account for the non random selection, at the youngest age group, of the sample of women living in couple.

#### 3. The Model and the data set

As we highlight in Section 2, the aim of the research is to analyse young women living in couple, with or without children, labour supply before and during the crisis to understand how their behaviour changed with the crisis. In doing so, given the youth living arrangements in Spain, we need to address the non random selection of women living in couple.

To take into account the non random selection of youth living in couple we estimate a probit model corrected for sample selection (Heckman Probit) for women aged less than  $39.^7$  The binary outcome (2) will be observed only when the individual supplies her labour i.e. when  $y_*^*$  in the latent equation (1) is greater than 0.

(1) 
$$y_i^* = \mathbf{x}_i \boldsymbol{\beta} + u_{ii}$$
 latent equation  
(2)  $y_i^{probit} = (y_i^* > 0)$ 

We estimate the labour supply of women belonging to a subsample: those who live in couple. Therefore we observe  $y_i$  (the outcome in terms of labour supply of woman i) if women do live in a couple i.e. when:

(3) 
$$y_i^{Select} = (z_i \beta + u_{2i} > 0)$$
 Selection equation

With
$$u_i \sim N(0,1)$$

$$u_2 \sim N(0,1)$$

$$corr(u_i, u_2) = \rho$$

On the other hand, for women aged over 39, whose probability of living in their parental household is much lower, a standard probit model is used to estimate their labour supply behaviour when living in couple.

To estimate the labour supply behaviour and youth living arrangements a set of individual, household and context variables are needed and, to ascertain the differences occurred in the impact of the different variables on the labour supply probability and on the probability of living in couples over the crisis one need to estimate the model in precrisis as well as most recent data. For this purpose we use the Eurostat, European Union Statistics on Income and Living Conditions for Spain (ES SILC) microdata with reference to the 2007 and 2012 surveys.

ES SILC provides data at the individual level on the level of education, age, type of employment, health and income as well as data at family level on household's equivalent income, whether the family own the house where it lives and has contracted

10

 $<sup>^{7}</sup>$  Van de Ven and Van Pragg (1981), Heckman (1979).

a mortgage. The number of observations allows to reach a regional level of significance, therefore we can introduce in the model also lagged regional specific unemployment rates to account for the status of the labour market on women's labour supply decisions.

#### 4. Results

Heckman probit models on women's labour supply probability accounting for the non random selection of women living in couple have been estimated for women aged from 20 to 39 (first four columns in Tables 3-4): the first step estimates the likelihood of living in couple of young women with respect to living with their parental household and the second step estimates, for those women living in couple, their labour supply probability. For elder women living in couple not affected by the non random selection problem a probit model on their labour supply has been estimated (last column in Tables 3-4).

The estimation of the Heckman Probit model first step provides insights on the factors affecting young women's probability of living in couple (Tables 3-4).

As the estimated coefficients show, consistently with the literature on youth living arrangements, young women's likelihood to live in couple rather than in their parental household decreases with a precarious employment condition or jobless status. For women aged from 30 to 39, also living in densely populated areas, where the likelihood to face higher rents or housing costs can be higher, significantly decreases their probability to live in couple.

The high incidence of temporary contracts for young people in Spain is an important factor behind the relatively low emancipation rates, since Spanish youth predominantly leave the parental home when they are offered a permanent job, while youth in other countries may decide to leave the parental home before. One of the main factors that may explain why employment stability plays such an important role in the emancipation decisions of Spanish youth is the poorly functioning of the rental market for housing. With respect to the housing market, and in particular the rental market, the percentage of youth who live in a rented house is much lower in Spain than in other EU countries. Renting is relatively expensive in Spain: with an average salary of 13,660 euro per year, for youth who rent their own house, the rent absorbs 47 percent of their income. And Spain has the lowest percentage of youth who are entitled to a housing allowance and they need 54 percent of their salary for the mortgage (Dolado et al., 2013a).

In the second step of the Heckman probit model women aged from 20 to 39 living in couple labour supply is estimated and compared with the labour supply behaviour of women living in a couple aged from 40 to 54 estimated by probit models. Since in 2012 the test for the independence of the two equations in the Heckman probit model did not allow to reject the null hypothesis for the 20 to 29 years old women, a probit model for the labour supply probability of women living in couple in this age group has been estimated (the coefficients are shown in the fourth column of Table 4 while marginal effects are reported in Table 5).

Marginal effects have been computed and evaluated at the means values of the continuous variables (Table 5). We compare the results of the models estimation in two different years 2007 (Table 3) and 2012 (Table 4).

#### Table 3 and 4 about here

In both the youngest age groups of women the presence of children aged less than 3 discourages their mothers' labour supply. Higher education has a positive and significant effect for women aged 30 to 39 and elder women the effect being similar in 2007 and 2012 (Tables 3,4,5). In 2012 for women in the 20-29 age group having a tertiary education level increases their labour supply probability. Partners' level of education has not been included in the model since marital sorting determines interdependencies in partners' levels of education leading to multicollinearity.

Other equivalent income of the households in thousands euro shows a negative effect on young women's labour supply in 2007 whereas during the crisis it shows a positive effect, though weak, on the youngest women's labour supply. Given the characteristics of the youngest households composition in terms of high correlation amongst partners' level of education and the positive effect for the youngest women of their education on labour supply probability, the positive effect of other income of the family income can capture the effect of a highest partner's level of education. The latter being positively related to the level of other income of the family. If the house is owner with a mortgage this is going to increase women's labour supply in 2007 only for 40-54 years old women and, in 2012, for women aged over 30.

#### Table 5 about here

For both age groups of young women (20 to 29 and 30 to 39) the added worker effect dominates in 2012. Young women aged from 20 to 29 experience an increase in their labour supply by 34% points if their partner is unemployed, a higher effect than the one experienced by women aged from 30 to 39 (+19%). Also being married to a temporary worker has a positive effect on women's labour supply but the effect is significant only for women 30 to 39 years old, on the other hand being married to a part-time worker increases women's labour supply by 38% for the youngest and by 28% for the elder (the effect being similar if they are in the 30-39 age group or in the 40-54 age group).

In 2012 the highest regional 2011 women's unemployment rates have a significant effect only for women aged 40 to 54: for them an increase of a one percent point in regional women's unemployment rate decreases their labour supply probability by 59%, whereas it is not statistically significant for youngest women.

On the other hand, before the crisis, the discouraged worker effect seems to dominate for women in all the age groups analysed (Table 3 and 5).

The prevalence in youth couples of the added worker effect in 2012 on women's labour supply can mitigate the loss of income in the family connected to the joblessness or precarious position held by men. However, as Section 2 shows, the likelihood that young women will find a job and the quality of the job they are more likely to find, can sharply reduce the alleviating effect on income inequality that the

added worker effect can play requiring dedicated policies as we shall discuss in the next section.

#### 5. Conclusions

Youth employment has high priority in Europe and within the context of the Youth Opportunities Initiative, several programs have been developed to support young people<sup>8</sup>. However, a more integrated approach to youth transitions into the labour market and youth life course transitions is needed (Knijn and Plantenga, 2012).

As studies show, youth unemployment could have long and substantial scarring effects on the future earnings prospects of those cohorts entering the labour market during recessions. Labour market reforms aimed at fighting labour contract dualism could be effective in reducing such scarring effects. Furthermore, only a small part of Spanish young people combine study and work, when participation in dual work-training programmes could markedly improve the transition of youth to work, as it happens in dual apprenticeship systems or in vocational training systems firmly anchored in on-the-job training (France or the United Kingdom). However, we need to be careful in not fostering apprentice contracts that do not improve youth opportunities and only serve as cheap labour within a extremely depressed labour market with very high unemployment rates.

Mismatch of young workers' skills with jobs and over-qualification are widespread phenomena in Spain. This can be partially related to low worker mobility and difficult access to rented housing. Reintroducing the means-tested housing benefit for young workers (RBE), which was effective in raising mobility and job match of tertiary graduates, would help again to improve mobility and allow youth also to leave their parental house and, the latter may contribute to reduce the increasing trend in living with parents shown by Spanish youth during the crisis (Section 2).

EU evidence (Plantenga et al., 2013) confirms that, even among the young, gender gaps are heavily influenced by the presence of children and to a lesser extent by the level of education. Family composition, especially the presence of children, plays an important role in influencing gender differences in inactivity, employment and part-time work. A discouraging effect of the presence of young children in the household has been also detected in the labour supply behaviour of young Spanish women living in couples (Section 4).

The discouraging effect persists also when children are in primary education. Though a sharp increase in male unemployment rates took place with the crisis, descriptive statistics (Section 2) show that if in the 20 to 24 age group unemployment rates are higher for men, in the elder age groups women's unemployment rates are still higher than men's. Moreover, Section 4 documents the prevalence in young couples of the added worker effect in 2012 with an increase in young married women's labour supply when their partner is unemployed or in a non- standard job position. This effect

\_

<sup>&</sup>lt;sup>8</sup> EU programme for youth has an estimated budget of 6,000 million euro, though ILO estimates that 20,000 million would be needed. Also, European Commission has announced that the EU will pay the majority of the money after the programmes are finished and results presented, increasing the constraint on Spanish consolidation plans for reducing public deficit.

can mitigate the loss in household's income faced by youth couples (which are more likely to show a lower number of employed member or members employed in a precarious job position, given the structure of the Spanish labour market); however, increased women's labour supply could not translate into higher employment if proper policies are not implemented.

On this regard, one should notice that well targeted labour market policies could be effective, but often lack a gender analysis and young women are much less involved than young men in active labour market policies (ALMP) and are less supported by passive ones. A greater access of women to ALMPs could be ensured for example through complementary measures supporting care responsibilities. To allow that the increased participation in the labour force - shown by young women living in couples when their partners are jobless or have a precarious job position - translates into higher employment dedicated active labour market policies are to be implemented and the availability of childcare services needs to be improved as mothers are more likely to be discouraged, as shown in Section 4, by the presence of young children in the household.

Apprenticeships schemes, support to youth entrepreneurship, job guarantee schemes, occupational orientation programs and employment incentives might have very different effects for young men and women due to gender segregation in education and employment and gender differences in care responsibilities. It is thus crucial to develop a gender perspective, to enrich the policy debate on youth and support the implementation of more effective policies.

Policies supporting the work-life balance and facilitating the school-to-work transitions are particularly relevant in reducing youth gender gaps while improving the labour market conditions of young women. Measures to reduce gender stereotyping and segregation in education and training appear also important to increase the employability of young women and to improve their future earnings and socio-economic conditions.

#### References

- Addabbo, T., Rodríguez-Modroño, P., Gálvez, L., 2013. Gender and the Great Recession: Changes in labour supply in Spain. Universitá di Modena Reggio Emilia, DEMB Working Paper Series, 2013-10.
- Addabbo, T., Kjeldstad, R., 2013. Household affiliation of young adults in Italy and Norway. The significance of gender, sociocultural background, work and money. Discussion Papers, Statistics Norway, Research department, No. 752, September 2013.
- Anxo, D., Bosch, G., Rubery, J., 2010. Shaping the life course: a European perspective, in Anxo D., Bosch, G., Rubery, J., (Eds.), 2010. The welfare state and life transitions. A European perspective. Edward Elgar, Cheltenham, pp.1-77.
- Arpaia, A., Curci, N., 2010. EU labour market behavior during the Great Recession. European Economy Economic Papers, 405.
- Bell, D.N.F, Blanchflower, D.G., 2010. Youth Unemployment: Déjà vu'. IZA Discussion Paper, 4705.

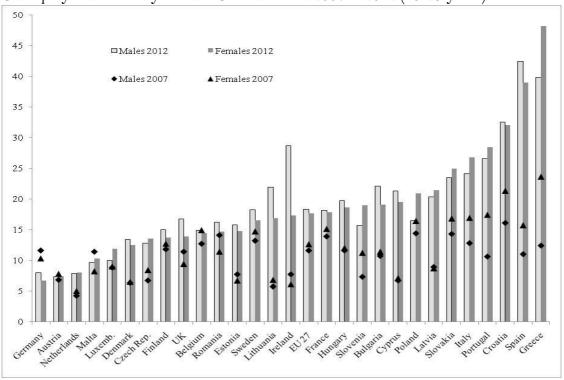
- Bettio, F., Corsi, M., D'Ippoliti, C., Lyberaki, A., Samek M., Verashchagina, A., 2012. The Impact of the Economic Crisis on The Situation of Women and Men and on Gender Equality Policies. European Commission, Directorate-General for Justice, Brussels.
- Bruno, G.S.F., Marelli, E., Signorelli, M., 2013. Young People in Crisis: NEETs and Unemployed in EU Regions, 53rd ERSA Congress, Palermo, 27-31 August 2013.
- Chiuri, M.C., Del Boca, D., 2010. Home-leaving decisions of daughters and sons. Rev. Econ. Househ., 8 (3), 393-408.
- Dolado, J., Felgueroso, F., Jansen, M., 2013a. Spanish Youth Unemployment: Deja Vu. Interecon./Rev. Eur. Econ. Policy. 48 (4), 209-215.
- Dolado, J., Jansen, M., Felgueroso, F., Fuentes A., Wölfl A., 2013b. Youth Labour Market Performance in Spain and its Determinants A Micro Level Perspective. OECD Economics Department Working Papers, No. 1039, OECD Publishing. <a href="http://dx.doi.org/10.1787/5k487n5bfz5c-en">http://dx.doi.org/10.1787/5k487n5bfz5c-en</a>
- Eurofound, 2011a. Young People and NEETs in Europe: First Findings. Eurofound, Dublin.
- Eurofound, 2011b. Foundation Findings: Youth and Work. Eurofound, Dublin.
- Eurofound, 2012a. NEETs: young people not in employment, education or training: characteristics, costs and policy responses in Europe. Eurofound, Dublin.
- Eurofound, 2012b. Recent policy developments related to those not in employment, education and training (NEETs), Eurofound, Dublin.
- European Commission, 2010a. Recent developments in the EU27 labour market for young people aged 15–29, European Commission, Brussels.
- European Commission, 2010b. Youth on the Move, An initiative to unleash the potential of young people to achieve smart, sustainable and inclusive growth in the European Union, Brussels, 15.9.2010 COM(2010) 477 final. European Commission, Brussels.
- European Commission, 2012a. EU Youth Report. Commission Staff working document -Status of the situation of young people in the European Union, 10.9.2 012 SWD (2012) 257 final, European Commission, Brussels.
- European Commission, 2012b. Moving youth into employment, 5.12.2012 COM (2012) 727 final, European Commission, Brussels.
- Felgueroso, F., Hidalgo, M., Jiménez, S., 2010. Explaining the fall of the skill wage premium in Spain. FEDEA Working Paper 2010-19.
- Gálvez, L., Rodríguez-Modroño, P., 2011. La desigualdad de género en las crisis económicas. Investig. Feministas. 2, 113 132.
- Gálvez, L., Rodríguez-Modroño, P., 2013. El empleo de las mujeres en la España democrática y el impacto de la Gran recesión. Áreas, Revista Int. Cienc. Soc. 32, 105 123.
- Giannelli, G. C., Monfardini, C., 2003. Joint Decisions on Household Membership and Human Capital Accumulation of Youths: The Role of Expected Earnings and Labor Market Rationing. J. Popul. Econ. XVI, 265–285.
- Heckman, J.J., 1979. Sample Selection Bias as a Specification Error. Econom. 47(1), 153-161.
- Iacovou, M., 2011. Leaving home: independence, togetherness and income in Europe. Expert paper no. 2011/10. United Nations, Department of Economic and Social Affairs/Population Division, New York.
- ILO, 2012. Global employment trends for youth 2012. International Labour Office, Geneva.

- Johnson, J.L., 1983. Sex Differentials in Unemployment Rates: A Case for No Concern. J. Polit. Econ. 91 (2), 293-303.
- Karamessini, M., 2008. The Southern European social model: Changes and continuities in recent decades. International Labour Rev. 147, 43-70.
- Karamessini, M., Rubery, J., 2013. Economic crisis and austerity, in: Karamessini, M., Rubery, J. (Eds.) Women and austerity. Routledge, Croydon, pp. 315-351.
- Knijn, T., Plantenga J., 2012. Conclusions: Transitions to adulthood, social policies and new social risks for Young adults, in: Knijn, T. (Ed.), Work, family policies and transitions to adulthood in Europe. Palgrave Macmillan, New York, pp. 202-215.
- Manacorda, M., Moretti, E., 2006. Why do most Italian youths live with their parents? Intergenerational transfers and household structure. J. Eur. Econ. Assoc. 4(4), 800-829.
- Mencarini, L., Tanturri, M., 2006. Una casa per diventare grandi. I giovani italiani, l'autonomia abitativa e il ruolo della famiglia d'origin'. Polis. 20(3), 405-430.
- Miguélez, F., Recio, A., 2010. The uncertain path from the Mediterranean welfare model in Spain, in Anxo, D., Bosch, G., Rubery, J., (Eds.) The welfare state and life transitions. A European perspective. Edward Elgar, Cheltenham, pp.284-308.
- Modena, F., Rondinelli, C., 2011. Leaving home and housing prices. The experience of Italian youth emancipation. Temi di discussione (Economic working papers), 818, September, 2011, Bank of Italy, Economic Research Department.
- OECD, 2002. A better start for youths, OECD Employment outlook 2002, special section. Paris, OECD.
- Plantenga, J., Remery, C. Samek, M.L., 2013. Starting Fragile Gender Differences in the Youth Labour Market Final report. Luxembourg, Publications Office of the European Union.
- Quintini, G., 2011. Over-Qualified or Under-Skilled: A Review of Existing Literature. OECD, Social, Employment and Migration Working Papers, No. 121, OECD Publishing, Paris.
- Quintini, G., Martin, S., 2006. Starting Well or Losing their Way?: The Position of Youth in the Labour Market in OECD Countries. OECD Social, Employment and Migration Working Papers, No. 39, OECD Publishing, Paris.
- Quintini, G., Manfredi, T., 2009. Going Separate Ways? School-to-work transitions in the United States and Europe. OECD Social, Employment and migration Working Papers, No. 90.
- Rodríguez-Modroño, P., 2012. Tipología de perdedoras en las crisis económicas de los siglos XX y XXI, in: Abstracts of XIII Jornadas de Economía Crítica, Universidad de Sevilla, Sevilla, 9-11 February 2012, pp. 530-544.
- Scarpetta, S., Sonnet, A., Manfredi, T., 2010. Rising Youth Unemployment During The Crisis: How to Prevent Negative Long-term Consequences on a Generation?. OECD Social, Employment and Migration Working Papers, No. 106, OECD Publishing. http://dx.doi.org/10.1787/5kmh79zb2mmv-en
- Schmitt, C., 2008. Gender-specific effects of unemployment on family formation: a cross-national perspective. SOEP papers, No. 127. Berlin: DIW.
- Signorelli, M., Choudhry, M., Marelli, E., 2012. The Impact of Financial Crises on Female Labor. Eur J Dev. Res. 24 (3), 413-433.
- Sobotka, T., Skirkbekk, V., Philipov, D., 2011. Economic recession and fertility in the developed world. Popul. Dev. Rev. 37 (2), 267-306.

Van de Ven, W.P.M.M., Van Pragg, B.M.S., 1981. The demand for deductibles in private health insurance: A probit model with sample selection. J Econom. 17, 229–252.

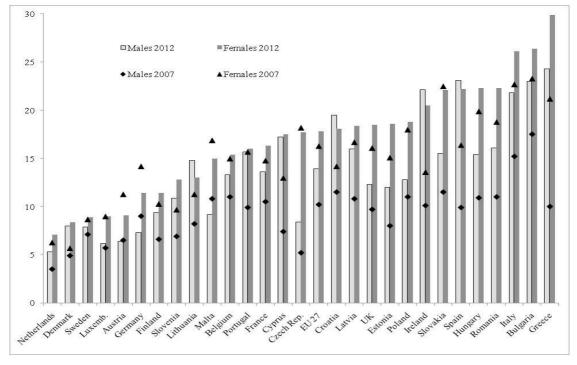
### **Tables and Figures**

Figure 1 Unemployment rates by sex in EU countries in 2007 & 2012 (15-29 years)



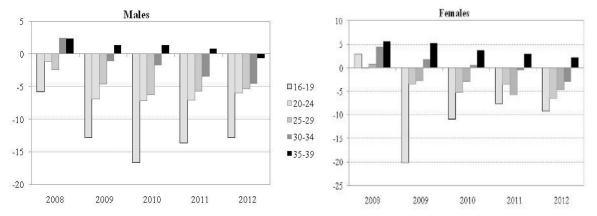
Source: Authors' elaborations on European Labour Force Survey.

Figure 2
Young people not in employment and not in any education and training (NEET rates) by sex (15-29) (2007 & 2012)



Source: Authors' elaborations on European Labour Force Survey.

Figure 3
Economically active younger population by gender and age, interannual variations, 2008-2012



Source: Authors' elaborations on European Labour Force Survey.

Table 1
Youth unemployment rates by age and gender years 2007 and 2012

|       |   | 2007 |           |      | 2012      |
|-------|---|------|-----------|------|-----------|
|       |   | Mean | Std. Dev. | Mean | Std. Dev. |
| 20-24 | M | 0,09 | 0,28      | 0,55 | 0,5       |
|       | F | 0,10 | 0,30      | 0,47 | 0,5       |
| 25-29 | M | 0,08 | 0,27      | 0,3  | 0,46      |
|       | F | 0,15 | 0,35      | 0,33 | 0,47      |
| 30-39 | M | 0,07 | 0,25      | 0,24 | 0,43      |
|       | F | 0,13 | 0,33      | 0,29 | 0,45      |
| 20-39 | M | 0,07 | 0,26      | 0,29 | 0,45      |
|       | F | 0,12 | 0,33      | 0,32 | 0,46      |

Source: Authors' elaborations from ES SILC 2007 & 2012.

**Table 2**Youth living arrangements by age group and gender, 2007 & 2012

|                |      |              |       | 2007         |       |       |       |              |  |
|----------------|------|--------------|-------|--------------|-------|-------|-------|--------------|--|
| Living         | 20   | -24          | 25-   | 25-29        |       | 30-39 |       | 40-54        |  |
| arrangement    | M    | $\mathbf{F}$ | M     | $\mathbf{F}$ | M     | F     | M     | $\mathbf{F}$ |  |
| with parent/s  | 92,1 | 87,91        | 65,05 | 55,41        | 24,8  | 15,65 | 9,69  | 6,62         |  |
| in a couple    | 2,54 | 9,64         | 21,25 | 36,8         | 61,84 | 75,54 | 83,23 | 83,84        |  |
| outside family | 4,55 | 2,29         | 6,39  | 4,06         | 4,18  | 2,2   | 1,2   | 3,73         |  |
| alone          | 0,81 | 0,15         | 7,3   | 3,25         | 9,13  | 4,4   | 5,29  | 3,12         |  |
| lone parent    | 0    | 0,01         | 0,01  | 0,48         | 0,04  | 2,2   | 0,58  | 2,7          |  |
|                |      |              |       | 2012         |       |       |       |              |  |
| with parent/s  | 93   | 85,42        | 63,3  | 53,68        | 24,28 | 14,85 | 10,32 | 6,72         |  |
| in a couple    | 2,13 | 10,39        | 20,42 | 36,7         | 59,31 | 70,98 | 75,08 | 78,21        |  |
| outside family | 3,29 | 3,46         | 7,04  | 2,63         | 4,23  | 2,7   | 3,4   | 3,86         |  |
| alone          | 1,58 | 0,73         | 9,24  | 6            | 12,08 | 8,47  | 10,27 | 5,82         |  |
| lone parent    | 0    | 0            | 0     | 0,99         | 0,1   | 3     | 0,92  | 5,4          |  |

Source: Authors' elaborations from ES SILC 2007 & 2012.

**Table 3**Multivariate probit models on the women's labour supply by age groups. 2007

|                     | 20-2          | 29        | 30-3          | 9                 | 40-54            |  |
|---------------------|---------------|-----------|---------------|-------------------|------------------|--|
| VARIABLES           | Labour supply | In couple | Labour supply | In couple         | Labour<br>supply |  |
| Age                 | -0.0475       | 0.202***  | 0,53          | 0.100***          | -0.170           |  |
|                     | (0.301)       | (0.0196)  | (0.389)       | (0.0154)          | (0.200)          |  |
| Age squared         | 0.00571       |           | -0.00760      |                   | 0.00165          |  |
|                     | (0.00602)     |           | (0.00558)     |                   | (0.00212)        |  |
| Other eq.family     | -0.047**      | -0.042*** | <b>-</b> 0.04 | 0.012*            | -0.03***         |  |
| income              | (0.023)       | (0.009)   | (0.07)        | (0.007)           | (0.0057)         |  |
| Children 0-2        | -0.578***     |           | -0.580***     |                   | -0.221           |  |
|                     | (0.160)       |           | (0.0952)      |                   | (0.200)          |  |
| Children 3-5        | -0.463***     |           | -0.217***     |                   | -0.280**         |  |
|                     | (0.175)       |           | (0.0829)      |                   | (0.133)          |  |
| Children 6-10       | -0.447**      |           | -0.280***     |                   | -0.0472          |  |
|                     | (0.185)       |           | (0.0881)      |                   | (0.0898)         |  |
| High school         | 0.00626       | -0.207*   | 0.441***      | -0.198*           | 0.510***         |  |
|                     | (0.170)       | (0.120)   | (0.119)       | (0.108)           | (0.0849)         |  |
| Degree              | -0.204        | -0.487*** | 0.934***      | -0.127            | 1.272***         |  |
|                     | (0.189)       | (0.128)   | (0.153)       | (0.0974)          | (0.0989)         |  |
| Regional unemp.     | -2.734**      |           | -4.298***     |                   | -3.554***        |  |
|                     | (1,364)       |           | (1,407)       |                   | (0.868)          |  |
| Part.unemployed     | 0,448         |           | 1.086***      |                   | 1.294***         |  |
|                     | (0.322)       |           | (0.262)       |                   | (0.125)          |  |
| Partner PT          | 1.131***      |           | 1.283***      |                   | 2.196***         |  |
|                     | (0.328)       |           | (0.258)       |                   | (0.210)          |  |
| Partner temp.       | 0.204*        |           | 0,227         |                   | 0.340***         |  |
|                     | (0.120)       |           | (0.153)       |                   | (0.0796)         |  |
| Partner Self-       |               |           | × ×           |                   |                  |  |
| employed            | -0.151        |           | 0.182**       |                   | 0,073            |  |
|                     | (0.140)       |           | (0.0909)      |                   | (0.0781)         |  |
| Mortgage            | 0,169         |           | 0,075         |                   | 0.222***         |  |
|                     | (0.120)       |           | (0.0805)      |                   | (0.0723)         |  |
| Born in EU countrie | es            | 0,202     |               | 0,449             |                  |  |
|                     |               | (0.285)   |               | (0.293)           |                  |  |
| Born outside Europe | e             | 1.010***  |               | 1.181***          |                  |  |
|                     |               | (0.236)   |               | (0.362)           |                  |  |
| Density populated a | rea           | 0,136     |               | <b>-</b> 0.253*** |                  |  |
| _                   |               | (0.0887)  |               | (0.0891)          |                  |  |
| Intermediate popula | ited area     | 0,083     |               | -0.0236           |                  |  |
|                     |               | (0.114)   |               | (0.0956)          |                  |  |
| chronic ill         |               | -0.0562   |               | <b>-</b> 0.304*** |                  |  |
|                     |               | (0.129)   |               | (0.101)           |                  |  |

| temporary worker         | -0.346***       |                   | -0.599*** |                   |        |
|--------------------------|-----------------|-------------------|-----------|-------------------|--------|
|                          |                 | (0.111)           |           | (0.121)           |        |
| unemployed               |                 | <b>-</b> 0.634*** |           | -0.572***         |        |
|                          |                 | (0.143)           |           | (0.132)           |        |
| student                  |                 | -0.933***         |           | <b>-</b> 2.146*** |        |
|                          |                 | (0.212)           |           | (0.352)           |        |
| Constant                 | -2.261          | <b>-</b> 4.906*** | -8.798    | -2.082***         | 4.560  |
|                          | (3,832)         | (0.532)           | (6,786)   | (0.532)           | (4,71) |
| atanh $ ho$              | 2,99            |                   | 1.643***  |                   |        |
|                          | (1,772)         |                   | (0.602)   |                   |        |
| Observations             | 1,886           | 439               | 2,177     | 1,790             | 3,057  |
| Wald Chi² (Model)        | 124,46          |                   | 106,77    |                   | 364,92 |
| $Prob > chi^2$           | 0,0000          |                   | 0         |                   | 0      |
| Wald chi²(1) test (ind.e | eq.)            |                   |           |                   |        |
|                          | 2,84            |                   | 7,45      |                   |        |
| Prob>chi2                | 0,0918          |                   | 0,0063    |                   |        |
| Robust standard errors   | s in parenthese | s                 |           |                   |        |
| *** p<0.01, ** p<0.05,   | , * p<0.1       |                   |           |                   |        |

Source: Authors' elaborations on ES SILC 2007.

**Table 4**Multivariate probit models on the women's labour supply by age groups. 2012

|                           |                   |                     |                            | 2012               |                     |                      |  |  |  |  |
|---------------------------|-------------------|---------------------|----------------------------|--------------------|---------------------|----------------------|--|--|--|--|
|                           |                   | 20-29               |                            | 30-3               | 40-54               |                      |  |  |  |  |
| VARIABLES                 | Labour supply     | In couple           | Labour<br>supply           | Labour supply      | In couple           | Labour supply        |  |  |  |  |
| Age                       | -1.548            | 0.188***            | -1.995**                   | .2270303           | 0.0776***           | -0.0250              |  |  |  |  |
|                           | (0.987)           | (0.0290)            | (0.945)                    | (0.363)            | (0.0165)            | (0.201)              |  |  |  |  |
| Age squared               | 0.0319*           |                     | 0.0400**                   | -0.00265           |                     | 5.10e <b>-</b> 05    |  |  |  |  |
|                           | (0.0193)          |                     | (0.0187)                   | (0.00522)          |                     | (0.00211)            |  |  |  |  |
| Other eq.family           | 0.0593*           | -0.0229**           | 0.0574**                   | -0.00903           | -0.0101             | <b>-</b> 0.0199***   |  |  |  |  |
| income                    | (0.0318)          | (0.00902)           | (0.0274)                   | (0.00748)          | (0.0065)            | (0.00498)            |  |  |  |  |
| Children 0-2              | -0.617**          |                     | -0.649**                   | -0.311***          |                     | -0.241               |  |  |  |  |
|                           | (0.279)           |                     | (0.255)                    | (0.0913)           |                     | (0.254)              |  |  |  |  |
| Children 3-5              | -0.168            |                     | -0.221                     | -0.242***          |                     | -0.170               |  |  |  |  |
|                           | (0.334)           |                     | (0.286)                    | (0.0867)           |                     | (0.139)              |  |  |  |  |
| Children 6-10             | -0.382            |                     | -0.455                     | <b>-</b> 0.463***  |                     | -0.0875              |  |  |  |  |
|                           | (0.378)           |                     | (0.387)                    | (0.0951)           |                     | (0.0876)             |  |  |  |  |
| High school               | -0.0427           | -0.280*             | 0.000368                   | 0.505***           | 0,0942              | 0.455***             |  |  |  |  |
|                           | (0.290)           | (0.161)             | (0.274)                    | (0.123)            | (0.124)             | (0.0834)             |  |  |  |  |
| Degree                    | 0,632             | -0.503***           | 0.732**                    | 0.805***           | 0,0935              | 1.225***             |  |  |  |  |
|                           | (0.522)           | (0.144)             | (0.359)                    | (0.135)            | (0.100)             | (0.0940)             |  |  |  |  |
| Regional unemp.           | 1.965             |                     | 2.223                      | -0.751             |                     | -2.207***            |  |  |  |  |
|                           | (2,252)           |                     | (2,17)                     | (0.661)            |                     | (0.545)              |  |  |  |  |
| Part.unemployed           | 1.499***          |                     | 1.565***                   | 0.752***           |                     | 0.979***             |  |  |  |  |
|                           | (0.369)           |                     | (0.294)                    | (0.152)            |                     | (0.0880)             |  |  |  |  |
| Partner PT                | 1.552***          |                     | 1.734***                   | 1.083***           |                     | 1.024***             |  |  |  |  |
|                           | (0.444)           |                     | (0.432)                    | (0.217)            |                     | (0.129)              |  |  |  |  |
| Partner temp.             | 0,348             |                     | 0,392                      | 0.324***           |                     | 0.411***             |  |  |  |  |
|                           | (0.282)           |                     | (0.277)                    | (0.123)            |                     | (0.0863)             |  |  |  |  |
| Partner Self-<br>employed | 1.101**           |                     | 1.051**                    | 0.304**            |                     | 0.251***             |  |  |  |  |
| employed                  |                   |                     |                            |                    |                     |                      |  |  |  |  |
| Mantagas                  | (0.432)           |                     | (0.433)<br><b>-</b> 0.0240 | (0.118)<br>0.179** |                     | (0.0794)<br>0.246*** |  |  |  |  |
| Mortgage                  | -0.150<br>(0.067) |                     |                            |                    |                     |                      |  |  |  |  |
| Born in EU countries      | (0.267)           | 1.512***            | (0.244)                    | (0.0829)           | 0.592***            | (0.0687)             |  |  |  |  |
| Born in EU countries      | •                 |                     |                            |                    |                     |                      |  |  |  |  |
| Pom autaida Europa        |                   | (0.265)<br>0.855*** |                            |                    | (0.212)<br>0.515*** |                      |  |  |  |  |
| Born outside Europe       |                   | (0.187)             |                            |                    | (0.152)             |                      |  |  |  |  |
| Dansity nanulated any     | 0.0               | ` '                 |                            |                    | -0.191**            |                      |  |  |  |  |
| Density populated are     | ca                | -0.177<br>(0.147)   |                            |                    | (0.0826)            |                      |  |  |  |  |
| Intermediate populate     | ad area           | (0.147)<br>0,0785   |                            |                    | (0.0826)<br>0,125   |                      |  |  |  |  |
| mermediate populat        | cu area           |                     |                            |                    |                     |                      |  |  |  |  |
| ahnania ill               |                   | (0.162)             |                            |                    | (0.0938)            |                      |  |  |  |  |
| chronic ill               |                   | 0,0829              |                            |                    | -0.196              |                      |  |  |  |  |

23

|                        |                | (0.228)           |         |                | (0.143)   |         |
|------------------------|----------------|-------------------|---------|----------------|-----------|---------|
| temporary worker       |                | <b>-</b> 0.396**  |         |                | -0.295*** |         |
|                        |                | (0.178)           |         |                | (0.113)   |         |
| unemployed             |                | -0.420***         |         |                | -0.499*** |         |
|                        |                | (0.150)           |         |                | (0.0948)  |         |
| student                |                | -1.073***         |         |                | -1.021**  |         |
|                        |                | (0.275)           |         |                | (0.403)   |         |
| Constant               | 17.29          | <b>-</b> 4.715*** | 23.61** | <b>-</b> 4.439 | -1.506*** | 1.359   |
|                        | (12.73)        | (0.798)           | (11.88) | (6,287)        | (0.571)   | (4,786) |
| athrho                 | 0,275          |                   |         | 1.707***       |           |         |
|                        | (0.485)        |                   |         | (0.429)        |           |         |
| Observations           | 272            | 1,523             | 272     | 1,446          | 1,812     | 3160    |
| Wald Chi2              | 39,13          |                   | 54.97   | 61,56          |           | 351,01  |
| Prob > chi2            | 0,0003         |                   | 0.0000  | O              |           | O       |
| Wald test of ind.eq.   |                |                   |         |                |           |         |
| chi2(1)                | 0,97           |                   |         | 15,87          |           |         |
| Prob>chi2              | 0,32           |                   |         | 0,0001         |           |         |
| Robust standard errors | in parentheses |                   |         |                |           |         |
| *** p<0.01, ** p<0.05, | * p<0.1        |                   |         |                |           |         |

Source: Authors' elaborations on ES SILC 2012.

Table 5 Marginal effects

|                 |                    | 2007               |                             |                       | 2012              |                             |
|-----------------|--------------------|--------------------|-----------------------------|-----------------------|-------------------|-----------------------------|
| Variables       | 20-29 <sup>a</sup> | 30-39 <sup>a</sup> | 40 <b>-</b> 54 <sup>b</sup> | 20– $29$ <sup>b</sup> | 30 <b>-</b> 39ª   | 40 <b>-</b> 54 <sup>b</sup> |
| Age             | -0.0129            | 0,155              | -0.0480                     | <b>-</b> 0.439**      | .0585589          | -0.00672                    |
|                 | (0.0813)           | (0.117)            | (0.0566)                    | (0.206)               | (0.0937)          | (0.0540)                    |
| Age squared     | 0.00155            | -0.00223           | 0.000467                    | 0.00880**             | -0.000684         | 1.37e-05                    |
|                 | (0.00159)          | (0.00168)          | (0.000599)                  | (0.00409)             | (0.00135)         | (0.000566)                  |
| Other eq.family | -0.0127**          | -0.0012            | -0.0086***                  | 0.0126**              | -0.00233          | <b>-</b> 0.00534***         |
| income          | (0.0056)           | (0.002)            | (0.00158)                   | (0.00589)             | (0.00194)         | (0.00132)                   |
| Children 0-2    | -0.157***          | <b>-</b> 0.170***  | -0.0627                     | -0.143***             | -0.0802***        | -0.0648                     |
|                 | (0.0490)           | (0.0269)           | (0.0564)                    | (0.0528)              | (0.0217)          | (0.0683)                    |
| Children 3-5    | -0.126**           | -0.0638***         | -0.0791**                   | -0.0486               | -0.0624***        | -0.0455                     |
|                 | (0.0532)           | (0.0230)           | (0.0374)                    | (0.0629)              | (0.0201)          | (0.0371)                    |
| Children 6-10   | -0.121**           | -0.0823***         | -0.0134                     | -0.100                | <b>-</b> 0.119*** | -0.0235                     |
|                 | (0.0541)           | (0.0231)           | (0.0254)                    | (0.0837)              | (0.0201)          | (0.0234)                    |
| High school     | 0.00170            | 0.129***           | 0.144***                    | 8.10e-05              | 0.130***          | 0.122***                    |
|                 | (0.0463)           | (0.0305)           | (0.0231)                    | (0.0603)              | (0.0294)          | (0.0216)                    |
| Degree          | -0.0552            | 0.274***           | 0.360***                    | 0.161**               | 0.208***          | 0.329***                    |
|                 | (0.0496)           | (0.0291)           | (0.0233)                    | (0.0771)              | (0.0262)          | (0.0210)                    |
| Regional unemp. | <b>-</b> 0.741*    | -1.261***          | -1.006***                   | 0,489                 | -0.194            | <b>-</b> 0.593***           |
|                 | (0.379)            | (0.347)            | (0.240)                     | (0.470)               | (0.167)           | (0.144)                     |
| Part.unemployed | 0,122              | 0.319***           | 0.366***                    | 0.344***              | 0.194***          | 0.263***                    |
|                 | (0.0917)           | (0.0569)           | (0.0319)                    | (0.0549)              | (0.0293)          | (0.0204)                    |
| Partner PT      | 0.307***           | 0.376***           | 0.621***                    | 0.381***              | 0.279***          | 0.275***                    |
|                 | (0.101)            | (0.0528)           | (0.0563)                    | (0.0942)              | (0.0408)          | (0.0323)                    |
| Partner temp.   | 0.0553*            | 0,067              | 0.0963***                   | 0,086                 | 0.0837***         | 0.110***                    |
|                 | (0.0331)           | (0.0412)           | (0.0221)                    | (0.0602)              | (0.0284)          | (0.0231)                    |
| Partner Self-   | 0.0400             | 0.0505**           | 0.001                       | 0.001**               | 0.0784***         | 0.0054***                   |
| employed        | <b>-</b> 0.0409    | 0.0535**           | 0,021                       | 0.231**               |                   | 0.0674***                   |
| Mantanana       | (0.0363)           | (0.0253)           | (0.0221)                    | (0.0906)              | (0.0282)          | (0.0213)                    |
| Mortgage        | 0,046              | 0,032              | 0.0628***                   | -0.00527              | 0.0463**          | 0.0661***                   |
|                 | (0.0309)           | (0.0231)           | (0.0203)                    | (0.0535)              | (0.0209)          | (0.0186)                    |
| Observations    | 439                | 1,790              | 3,057                       | 272                   | 1,446             | 3,160                       |

<sup>a</sup> Marginal effects Heckman Probit models
<sup>b</sup> Marginal effects Probit models
Source: Authors' elaborations on ES SILC 2012 and ES SILC 2007.