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Highlights

- Impact of the Great Recession on young women's labour supply in Spain
- Effect of partner's working condition on young women's labour supply
- Added vs. discouraged worker effects on the labour supply of young women living in couples
- Added worker effect dominates in 2012 for women aged less than 40
- Need of addressing the gender impact of labour market policies

**Young people living as couples: How women's labour supply is adapting to the crisis.
Spain as a case study**

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Abstract

In this paper, we focus on the effects of the Great Recession on the decisions of young women regarding their labour supply. Considering the profound effect of the economic recession on the Spanish labour market, and in particular on the labour supply of young people, the focus of the empirical part of this paper is on Spain. Using EU-SILC 2007 and 2012 micro data for Spain, the labour supply models of women are estimated by age group, with a particular focus on the 20 to 29 and 30 to 39 age bands, in order to establish how young women living in couples exhibit different labour supply propensities according to their partner's labour market status. Correction is made for the non-random selection of women living in couples in the younger age groups. This first analytical step reveals a negative effect on the likelihood of forming a new household in the context of precarious employment conditions. Analytical results regarding the labour supply of women by age group confirmed a discouraging effect of young children on the labour supply of the youngest mothers, as well as a positive effect from being the owner of a house purchased under mortgage.

The literature shows that different effects can be at work within the crisis: an added worker effect (AWE), which is countercyclical labour supply behaviour involving an increase in individual labour supply in response to transitory shocks in the partner's earnings, and a procyclical discouraged worker effect. The resulting estimations of the present study suggest an AWE in 2012 for young women living in couples. While in 2012 the discouragement effect was only prevalent for women over 40, in 2007 it was also prevalent among 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 suggest a need for labour market policies targeted towards young women. Childcare facilities could mitigate the latter effect and produce a more continuous work profile, avoiding the negative effects of work experience interruptions on labour supply during the female lifecycle.

Keywords: Labor supply, Great recession, Gender, Added worker effect, Discouraged worker effect, Young people labor supply

JEL classification: J22, J21, J16, J64

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1. Introduction

The current recession has hit young people particularly hard, revealing the structural obstacles they face in the transition from education to the labour market, and the lack of adequate mechanisms and resources to facilitate their entry into the labour market. In the Spanish case, comparative data reveals a very dramatic situation. Eurostat data for 2013 reports 55.7 percent youth unemployment (15-24) in Spain, almost twice that of the general Spanish population and of the European average of 23.2 percent. Young workers are not only much more likely to be unemployed, but also much more likely to be under flexible, non-standard employment conditions, typically temporary jobs, compared to the rest of the workforce. 65 percent of young workers in Spain have fixed term jobs (compared to 42.6% in EU27) and more than 80% of those with temporary jobs are employed in this way only because they cannot find a permanent position.

Women more commonly start with the double disadvantage of jobs that are both temporary and part-time. The transition from education to a first stable job is quicker for males than females in all countries, and the length of the transition period is greater in Spain than in the rest of Europe. NEET rates (the percentage of the population of a given age group that is unemployed and not involved in further education or training) are usually higher for females due to the inactive component of NEETs, although this is no longer the case in Spain due to the steeper drop in employment and activity for young men than women. Discouragement has been more marked among males than females during the present crisis (Addabbo et al., 2013).

The current economic recession is changing a number of previous patterns, especially when observing gender differences. Historically, women faced more limited labour opportunities, lower human capital training, and specialisation in unpaid care, and their labour behaviour was more dependent on their partner's labour market participation and performance than the other way around (Gálvez and Rodríguez-Modroño, 2011). This resulted in lower

activity rates, shorter and more discontinuous working lives and all the resulting consequences for wellbeing and professional development associated with these trends. However, decreasing fertility rates, increasing educational levels, and the effects of equal opportunity policies combined with changing labour market conditions can impact the behaviour of both men and women (Gálvez and Rodríguez Modroño, 2013), especially among the younger population. In reality, continuous full-time work is becoming less frequent all over Europe and flexible forms of employment like part-time work, fixed term contracts and self-employment are increasingly common (European Commission, 2010a). These trends have a strong impact at the labour market entry level, resulting in prolonged school-to-work transitions and increasing difficulty to achieve a stable position within the labour market. Although these trends can be observed in most of the European member states, there are wide differences between states as regards labour market flexibility and the degree of insecurity and uncertainty that young people face (Plantenga et al., 2013).

How is the labour supply behaviour of young women and men changing in this context? The focus of this paper is on the way labour supply decisions of young women in Spain changed in the current economic recession. During the crisis, the estimated average age of young people leaving their parental homes has increased (from 27.5 for women in 2007 to 27.9 in 2012, and from 29.2 for men in 2007 to 29.9 in 2012)¹ and furthermore their labour supply behaviour can also be influenced by the employment status of other members of their family and the income of the parental household. Though it is relevant to understand how young women living in their parental households adapt to changes in the employment conditions of their parents or other members of their family, in this paper the focus is on the labour supply behaviour of those women who left their parental households to live in couples. Particular attention is devoted to young women's labour supply reactions to their partner's

¹ Source: Eurostat metadata [yth_demo_030].

employment status and regional unemployment rates by comparing two different years: one pre-crisis year and the current situation.

The literature reports that different phenomena can be active within the crisis: an added worker effect (AWE), which is countercyclical labour supply behaviour involving an increase in individual labour supply in response to transitory shocks in the partner's earnings, and a procyclical discouraged worker effect (DWE).

An analysis of different gender behaviour as regards entry to the labour market in one of the most badly affected countries in the EU in terms of unemployment has important theoretical and policy implications. It offers insight into the relationship between economic cycles/crises and labour supply by gender as well as the transition from school to work in the new economic and institutional context oriented towards major flexibility, and it facilitates assessment of how the effectiveness of social welfare systems varies in the support of different groups, in particular as defined by gender, age or generation.

The analysis also has important policy implications at the individual and national/regional level. For the individual, events occurring at one point in time may affect events and transitions at a later time, so that almost any individual decision will have longer term consequences for the course of life. These decisions include investing in human capital, participating in the labour market or not, withdrawing temporarily or permanently from the labour market, choice of working time arrangements, allocation of time between competing activities, as well as cohabitation/marriage and fertility decisions. Individual path dependency can be combined with national path dependency (Anxo et al., 2010). Nationally, the increase in precarious jobs and unemployment among young people generates high costs for society, resulting from the consequent waste of human capital. The prospects for economic growth are reduced, a process exacerbated by the risk of the "brain drain" phenomenon. Poverty is likely to increase with income inequalities within and across generations. Budgets tend to shrink in response to low fiscal revenues and high social expenditure (Plantenga et al., 2013). Higher

unemployment rates or underemployment among young educated females together with lower fertility rates also have an important impact on competitiveness and economic and social sustainability.

This paper is organised as follows. The second section reviews the existing literature on the labour supply of young people by gender during recession periods and the current economic crisis. The third section describes the performance of the youth labour market in Spain by gender during the current economic crisis. The fourth section presents a model and a dataset focused on the Spanish labour market, modelling the labour supply of women by age group with a special focus on the 20 to 29 and 30 to 39 age bands in order to establish how young women living in couples express different labour supply probabilities according to the state of the labour market and their partner's employment condition, using EU-SILC 2007 and 2012 micro data for Spain. The fifth section presents the results and the sixth section concludes.

2. Youth labour supply, gender and crises

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

The work and life transitions of young people have been widely analysed in the

² The study 'Starting Fragile' by Plantega et al. (2013) is an exception.

literature, considering that one of the consequences of 'starting fragile' might be a problematic transition into work, which could 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 influence personal wellbeing, reducing happiness, job satisfaction and health (Plantenga et al., 2013). A fragile start could have consequences that go beyond the direct effects on the labour market and significant personal losses, generating substantial aggregated economic costs at a national or regional level.

As regards work transition, a few different aspects have been analysed, including the incidence of long-term unemployment, the differences between the USA and European countries (Quintini and Martin, 2006; Quintini and Manfredi, 2009), the relationship with the wage skill premium (Felgueroso et al., 2010), the influence 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), as well as the role of temporary jobs in unemployment and school-to-work transition. This latter aspect is especially important when analysing the Spanish case, due to the high temporality and volatility among young workers in Spain (Dolado et al., 2013b). When the only available jobs are temporary, young people are at high risk of becoming unemployed, as empirical evidence demonstrates that in Spain most temporary jobs do not develop into permanent positions, a phenomenon that is being exasperated in the current recession.

On the issue of life transition, various aspects have been considered, including the relationship between economic recession and fertility (Sobotka et al., 2011)³ and the adequacy

³ In the overview of the literature elaborated by Sobotka et al. (2011) and included in Plantenga et al. (2013), it emerges that during a recession the choice to start a family is postponed, particularly as regards the first child. According to these authors, recessions have a mixed impact in terms of birth rates. Unemployment may lower female opportunity costs, so that 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

of the welfare system's response to the changing need for support at these critical stages of life, which shape future life prospects (Anxo et al., 2010), all related to the life transition process towards family formation or an independent life. Being unemployed has a negative influence on leaving the parental home and might frustrate attempts to start a family.

A fragile economic status has a strong impact on the opportunity to leave the parental home due to constraints of housing and access to resources, as analysed 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), Addabbo and Kjeldstad (2013). For Anxo et al. (2010), young peoples' transitions to independence are becoming increasingly dependent on parental income and wealth, even taking into account important national differences in social norms encouraging early departure from the parental home and parental income support (Iacovou, 2011).

These combined factors may be generating more erratic employment paths during the course of life and more variable life stages, like for example postponement of transition to independent family formation and parenthood in contexts where it is more difficult to obtain stable employment or independent housing, thus profoundly influencing labour supply decisions by gender, especially among the young.

The limited analysis of youth labour supply from a gender perspective in the literature contrasts with the extensive literature regarding gender and economic crises and cycles, especially labour supply behaviour and the impact of the crisis not only on paid work but also on the unpaid domestic work performed by women, noting that this work has 'taken up the slack' during the crisis and ensured the survival of many families at the expense of an intensification of women's work. Analyses of the past financial crises' impact on the labour market show a significant and persistent effect, especially in high income countries, on the

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

reduction of female participation rates and on higher female unemployment rates (Signorelli et al., 2012). Analyses of the impact of the present recession on European countries (Arpaia and Curci, 2010; Bettio et al., 2012; Karamessini and Rubery, 2013) reveal evidence for a discouraged worker effect (hereafter DWE) for both sexes, but also a high added worker effect (hereafter AWE) for women. The AWE is predominant in Spain (Addabbo et al., 2013), although there is always considerable heterogeneity in women's response to the labour market and it is important to take into account intra-gender differences and analyse the vulnerability of the various types of women and their relative positions in the labour market according to age, educational level, household income, etc. (Rodríguez-Modroño, 2012). Therefore, this paper analyses the differentiated gender effects of the recession on the youth labour supply and living arrangements in Spain, and whether young women are also experiencing an AWE.

3. Youth labour market performance in Spain by gender during the current economic recession

Young people as a group are particularly penalized by the economic crisis and austerity crisis management, as demonstrated by high and increasing unemployment rates (Figure 1), reversing the positive trend before 2007 with economic expansion and a construction boom. Spain entered the 1990s with a 45 percent youth unemployment rate, which fell to 22 percent in 2000, but then reversed to 46 percent again by 2010. The current level is close to that of Greece, although, as underlined by Dolado et al. (2013a), this has occurred with a lower negative trend in GDP. The danger of a 'lost generation' is becoming a startling reality, because the youth labour market is significantly more sensitive to the business cycle than that of adult workers. 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 percent during the crisis, partly due to their concentration in the construction sector, which accounted for 28% of young male employment in 2007.

Spain also has the most volatile employment rates for young females, with a sharper drop than anywhere else during the current crisis.

The unemployment rates are shown in Figure 1. It can be observed that young males have been more severely 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. This relationship has inverted during the recession, with young male unemployment rates increasing more than female rates in Spain and almost all EU countries.

<insert Figure 1 here>

As Table 1 shows, the changes are more marked in the 20 to 24 year group between 2007 and 2012. Unemployment rates decrease with age and, in 2012, are higher for men in the 20-24 year group and for women in all age groups below 40.

<insert Table 1 here>

In addition, changing labour market conditions with increasingly flexible forms of employment put young people, especially women, in a very fragile position. Women more frequently start in the doubly fragile situation of a job that is both temporary and part-time. Part-time employment of young females as a percentage of total employment in Spain has increased from 31.1% in 2007 to 47.1% in 2013. Spanish youths are subject to more frequent transitions from employment to non-employment than young people elsewhere, and a relatively large part of these transitions derives 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 exasperated the

existing high turnover of workers. 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 was made possible by changes in the employment protection laws in most countries.⁴

Furthermore, discouragement resulting from the lack of job opportunities has raised the inactivity rate, so that the rate of young people who are unemployed and not in any form of education or training (NEET)⁵ reached 22.8% in Spain in 2013, compared to 15.8% in EU27. The changes over time in NEET rates provide a useful indicator of the difficulties that young people encounter in the transition from school to work. The NEET rates for young women with low education in Mediterranean countries, including Spain, are particularly high (Plantenga et al., 2013). A study by Bruno et al. (2013) on different European regions found the highest persistence of NEET rates, including youth unemployment rates, and the lowest response to GDP in Southern European regions, which underlines the need to match active and passive labour market policies. Furthermore, Bruno et al. (2013) point out that, overall, male NEET rates seem to be more responsive to GDP changes than female NEET rates, with an attenuation of this difference during the crisis.

<insert Figure 2 here>

NEET rates are usually higher for females due to the inactive component of NEETs, though this is no longer the case in Spain due to the sharper drop in employment and activity for young men than for women. As Figure 3 shows, male discouragement has been higher

⁴ In Spain, three labour reforms aiming to increase flexibility have been implemented during the crisis, in June 2010 and June 2011 by the socialist government and in February 2012 by the conservative government.

⁵ The NEET rate is defined as the percentage of the population of a given age group that is not employed and not involved in further education or training. The concept of NEET regards youth unemployment and inactivity not due to education and training. 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.

than that of females 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 this may decline in coming years due to the rising cost of education and a reduction in scholarships. Only people aged over 30, mostly women, have experienced an increase in activity.

<insert Figure 3 here>

The transition from education to a first stable job is shorter for males than females in all countries, and the length of the transition period is longer in Spain than in the rest of Europe. There is an extensive literature demonstrating that long spells of unemployment at the start of a working life tend 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). Consequently, the scarring effects of this recession are particularly relevant in a country like Spain with persistently high and very volatile youth unemployment rates, especially for women.

In addition, this increased complexity and difficulty in the transition from youth to adulthood is augmenting social risks for young people and inhibiting their degree of autonomy and opportunity for leaving the parental home. In Southern European countries like Spain young people traditionally leave the parental home quite late and welfare benefits are less generous, but the latest data from the Spanish Council for Youth of the Ministry of Health shows that the emancipation rate of 16-30 year-olds has further decreased since 2010, dropping by 7% in 2012-13 alone. The literature on youth living arrangements demonstrates quite clearly that housing and employment conditions are crucial factors affecting youth

living arrangements.⁶ In 2008 a housing allowance for young people (RBE, *Renta Básica de Emancipación*) was introduced, increasing emancipation rates of the entitled groups of males and females (22-29 years) by 8% between 2008 and 2011 (Dolado et al., 2013b). However, it was abolished in 2012 as one of the measures to reduce the public deficit. With the contemporary emphasis on cost containment and fiscal consolidation, social policies are reducing support for young people and extending dependence on the parental family.

Family support maintains social cohesion when individual opportunities are lacking in the labour market. Spain is still lagging behind in social expenditure, which is 8% lower than the EU average. This indicates that the disparity between the employment and social models has not been resolved by social policies (Miguélez and Recio, 2010). From a gender perspective, the main risk seems to be that young women (particularly in the lower skills bracket) might be forced into full-time care roles. As a consequence, their detachment from the labour market will increase, seriously hampering their long-term perspectives in terms of career and income.

Amongst the 7,470 individuals in the 20-39 year bracket of the EU SILC 2012 sample, the majority of men (45%) live in their parental home, while 40% live in couples. Amongst women, 53% live in couples and 36% live with their parents. The vast number of young people living with their parents is highest for the youngest age bracket (almost all men and 85% of women aged 20 to 24 years live with their parents), falling to 24% for men and 15% for women in the oldest age group (30 to 39). Young men are more likely to live with their parents in any age group (see Table 2).

<insert Table 2 here>

⁶ These effects have been demonstrated, among others, in three studies on youth living arrangements in Italy by Giannelli and Monfardini (2003), Modena and Rondinelli (2011), and Addabbo and Kjeldstad (2013).

In this context, how is the labour supply behaviour of young women changing? As shown in the unemployment rates by gender (Table 1), in 2012 both male and female unemployment rates peak when they are 20 to 24 years old, and subsequently female unemployment rates are higher than those of males. The literature regarding the female labour supply observes two different effects when women living in a couple face a high probability that their partner might become unemployed. Considering the high youth unemployment rates in Spain, the likelihood of living in a household with a reduced number of earners sharply increased with the crisis.

The authors therefore aim to analyse how women living in a couple react to an increase in regional unemployment rates and their partner's decreasing employment status in terms of labour supply by comparing two different years: one pre-crisis year and the current situation. However, given the changes in youths' living arrangements, it is necessary to account for the non-random selection, in the youngest age group, of the sample of women living in couples.

4. The model and the dataset

As stated in Section 3, the aim of the present research is to analyse the labour supply of young women living in couples, with or without children, before and during the current crisis in order to establish how their behaviour changed in response to the crisis. It is also necessary to take into account changes in youths' living arrangements in Spain in order to adjust for the non-random selection of women living in couples.

The issue of the non-random selection of young people living in couples is dealt with by estimating a probit model corrected for sample selection (Heckman probit) of women aged

less than 39.⁷ The binary outcome (2) will be observed only when an individual supplies labour, i.e. when y_i^* in the latent equation (1) is greater than 0.

$$(1) \quad y_i^* = x_i\beta + u_{1i} \quad \text{latent equation}$$

$$(2) \quad y_i^{probit} = (y_i^* > 0)$$

The labour supply is estimated for women belonging to a sub-sample: those who live in couples. Therefore, y_i (the outcome in terms of labour supply of woman i) is assigned if women live in a couple, i.e. when:

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

with

$$u_1 \bullet N(0,1)$$

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

$$\text{corr}(u_1, u_2) = \rho$$

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

An estimation of labour supply behaviour and youths' living arrangements requires a set of individual, household, and context variables. In order to ascertain the varying impact of the different variables on the labour supply probability and on the probability of living in couples during the crisis, it is necessary to estimate the model in pre-crisis time and again using the most recent data. For this purpose, the Eurostat European Union Statistics on

⁷ Van de Ven and Van Pragg (1981), Heckman (1979).

Income and Living Conditions for Spain (ES SILC) microdata is used with reference to the 2007 and 2012 surveys.

ES SILC provides individual data regarding the level of education, age, type of employment, health, and income, as well as family data regarding the household's equivalised income, whether the family own their home and have contracted a mortgage. The large number of cases makes it possible to achieve a regional level of significance, so that it is possible to include lagged regional specific unemployment rates in the model to account for the status of the labour market in the labour supply decisions of women.

4. Results

Heckman probit models of the labour supply probability of women, taking into account the non-random selection of women living in couples, were estimated for women aged 20 to 39 (first four columns in Tables 3-4). First, the likelihood of young women living in couples compared to living in their parental home is estimated. Secondly, the labour supply probability is calculated for women living in couples. A probit model was estimated for the labour supply of older women living in couples not affected by the non-random selection problem (last column in Tables 3-4).

The estimation of the first step of the Heckman probit model provides insights into the factors affecting the probability of young women living in couples (Tables 3-4).

In agreement with the literature on youths' living arrangements, the estimated coefficients show that the likelihood of young women living in couples rather than in their parental home decreases with precarious employment conditions or a jobless status. Women aged from 30 to 39 exhibited a significantly lower probability of living in couples even when living in densely populated areas where the likelihood of higher rents and housing costs is typically greater.

The high incidence of temporary contracts among young people in Spain is an important factor behind the relatively low emancipation rates, since Spanish youths predominantly leave the parental home when they are offered a permanent job, while youths in other countries may decide to leave the parental home before. One of the main factors that might explain why employment stability plays such an important role in the emancipation decisions of Spanish youths is the poor operation of the rental market for housing. The percentage of youths who live in rented accommodation is much lower in Spain than in other EU countries. Renting is relatively expensive in Spain. Considering an average salary of 13,660 euro per year, for a young person to rent a house, the rent will absorb 47 percent of their income. Spain also has the lowest percentage of youths entitled to a housing allowance, and 54 percent of their salary is needed to cover a mortgage (Dolado et al., 2013a).

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

<insert Tables 3 and 4 here>

In both the youngest age groups of women the presence of children younger than 3 discouraged the mothers' labour supply. Higher education has a positive and significant effect on women aged 30 to 39, and for older women the effect was similar in 2007 and 2012 (Tables 3, 4, 5). In 2012, women in the group aged 20-29 with tertiary education exhibited a

higher labour supply probability. The level of education of the partners was not included in the model because marital sorting determines interdependencies in the levels of education of partners, leading to multi-collinearity.

The effect of the other members of the household's equivalised income variable (measured in thousands of euro) on young women's labour supply is negative in 2007, which is consistent with the negative income effect. On the other hand, during the crisis the same variable has a positive though weak effect for women aged 20 to 29. The latter can be explained by the positive correlation between the young partners' education levels and higher income levels. During the crisis, the negative income effect of a higher equivalised income of another member of the household is therefore more than offset by the positive effect of the partner's higher level of education.

In cases where the family home is owned with a mortgage, in 2007 this only increased women's labour supply among 40-54 year-old women, while in 2012 it included women aged over 30. This might reflect an increased need for women's labour to sustain the contracted mortgage extending towards the youngest households, possibly deriving from their greater likelihood of a reduction in the number of earners.

<insert Table 5 here>

In 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 exhibit an increase in labour supply of 34% if their partner is unemployed, a higher effect than that observed for women aged 30 to 39 (+19%). Being married to a temporary worker also has a positive effect on women's labour supply, but the effect is only significant for women of 30 to 39 years, while being married to a part-time worker increases the labour supply of women by 38% for the youngest group and by 28% for the older groups (the effect being similar for the 30-39 and 40-54 age groups).

In 2012, the highest regional 2011 female unemployment rates have a significant effect only for women aged 40 to 54: for this group an increase of 1% in regional female unemployment decreases their labour supply probability by 59%, whereas it is not statistically significant for younger women.

Conversely, before the crisis, the discouraged worker effect appeared to dominate for women in all the age groups analysed (Table 3 and 5).

The prevalence of the added worker effect in young couples on female labour supply in 2012 can mitigate the loss of income in the family deriving from joblessness or precarious employment of men. However, as Section 2 shows, the likelihood that young women will find a job and the quality of the job they are likely to find can sharply reduce the alleviating effect on income inequality that the added worker effect can offer, requiring dedicated policies, as will be discussed in the next section.

5. Conclusions

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

As studies show, youth unemployment can have long and substantial scarring effects on the future earnings prospects of 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 portion of young Spaniards combine study and work, although participation in dual work-training programmes could markedly improve the transition of youths to work, as happens in dual apprenticeship systems or in

⁸ The EU programme for youths has an estimated budget of 6,000 million euro, though ILO estimates that 20,000 million would be needed. Also, the European Commission has announced that the EU will pay the majority of the money after the programmes are finished and results presented, increasing the constraints on Spanish consolidation plans for reducing the public deficit.

vocational training systems firmly anchored in on-the-job training (as in France or the United Kingdom). However, it is important to avoid encouraging apprentice contracts that do not improve youth opportunities and only serve as cheap labour within an 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 means-tested housing benefits for young workers (RBE), which were effective in raising the mobility and job matching of tertiary graduates, would help to recover mobility and also allow youths to leave the parental home, possibly helping to reduce the trend for over-extended residence with parents by Spanish youths during the crisis (see Section 3).

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 also been detected in the labour supply behaviour of young Spanish women living in couples (Section 5).

The discouraging effect persists even when the children are in primary education. Though a sharp increase in male unemployment rates took place with the crisis, descriptive statistics (Section 3) show that, while in the 20 to 24 age group unemployment rates are higher for men, in the older age groups women's unemployment rates are still higher than men's. Moreover, Section 5 documents the prevalence of the added worker effect in young couples in 2012, with an increase in the labour supply of young married women when their partner is unemployed or in a non-standard job situation. This effect can mitigate the loss in household income faced by young couples (which are more likely to have a lower number of employed members, or members employed in precarious jobs, given the structure of the

Spanish labour market); however, an increased labour supply from women might not translate into higher employment if proper policies are not implemented.

In this respect, it should be noted that well-targeted labour market policies can be effective, but often lack gender analysis. Therefore, young women are much less included in active labour market policies (ALMP) than young men and are less supported by passive policies. A greater access of women to ALMPs could be ensured, for example, through complementary measures supporting care responsibilities. In order for the increased participation in the labour force of young women living in couples when their partners are jobless or have precarious jobs to be translated into higher employment, it is necessary that dedicated active labour market policies are implemented. The availability of childcare services also needs to be improved, because mothers are more likely to be discouraged by the presence of young children in the home, as shown in Section 5.

Apprenticeship schemes, support for young entrepreneurs, job guarantee schemes, occupational orientation programs, and employment incentives might have very different effects on 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 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 also appear to be important to increase the employability of young women and to improve their future earnings and socio-economic conditions.

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Table 1
Youth unemployment rates by age and gender in the 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 on ES SILC 2007 & 2012.

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

2007								
Living arrangement	20-24		25-29		30-39		40-54	
	M	F	M	F	M	F	M	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
single 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
single parent	0	0	0	0,99	0,1	3	0,92	5,4

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

Table 3
Multivariate probit models of the labour supply of women by age groups. 2007

VARIABLES	20-29		30-39		40-54
	Labour supply	In couple	Labour supply	In couple	Labour supply
Age	-0.0475 (0.301)	0.202*** (0.0196)	0,53 (0.389)	0.100*** (0.0154)	-0.170 (0.200)
Age squared	0.00571 (0.00602)		-0.00760 (0.00558)		0.00165 (0.00212)
Other eq. family income	-0.047** (0.023)	-0.042*** (0.009)	-0.04 (0.07)	0.012* (0.007)	-0.03*** (0.0057)
Children 0-2	-0.578*** (0.160)		-0.580*** (0.0952)		-0.221 (0.200)
Children 3-5	-0.463*** (0.175)		-0.217*** (0.0829)		-0.280** (0.133)
Children 6-10	-0.447** (0.185)		-0.280*** (0.0881)		-0.0472 (0.0898)
High school	0.00626 (0.170)	-0.207* (0.120)	0.441*** (0.119)	-0.198* (0.108)	0.510*** (0.0849)
Degree	-0.204 (0.189)	-0.487*** (0.128)	0.934*** (0.153)	-0.127 (0.0974)	1.272*** (0.0989)
Regional unemp.	-2.734** (1,364)		-4.298*** (1,407)		-3.554*** (0.868)
Part. unemployed	0,448 (0.322)		1.086*** (0.262)		1.294*** (0.125)
Partner PT	1.131*** (0.328)		1.283*** (0.258)		2.196*** (0.210)
Partner temp.	0.204* (0.120)		0,227 (0.153)		0.340*** (0.0796)
Partner Self-employed	-0.151 (0.140)		0.182** (0.0909)		0,073 (0.0781)
Mortgage	0,169 (0.120)		0,075 (0.0805)		0.222*** (0.0723)
Born in EU countries		0,202 (0.285)		0,449 (0.293)	
Born outside Europe		1.010*** (0.236)		1.181*** (0.362)	
Density populated area		0,136 (0.0887)		-0.253*** (0.0891)	
Intermediate populated area		0,083 (0.114)		-0.0236 (0.0956)	
chronic ill		-0.0562 (0.129)		-0.304*** (0.101)	
temporary worker		-0.346*** (0.111)		-0.599*** (0.121)	
unemployed		-0.634***		-0.572***	

		(0.143)		(0.132)	
student		-0.933***		-2.146***	
		(0.212)		(0.352)	
Constant	-2.261	-4.906***	-8.798	-2.082***	4.560
	(3,832)	(0.532)	(6,786)	(0.532)	(4,71)
atanh ρ	2,99		1.643***		
	(1,772)		(0.602)		
Observations	1,886	439	2,177	1,790	3,057
Wald Chi ² (Model)	124,46		106,77		364,92
Prob > Chi ²	0,0000		0		0
Wald chi ² (1) test (ind. eq.)					
	2,84		7,45		
Prob > Chi ²	0,0918		0,0063		
Robust standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Source: Authors' elaborations on ES SILC 2007.

Marginal effects were computed and evaluated at the mean value of each continuous variable (Table 5). A comparison is made between the estimation model results for two different years: 2007 (Table 3), and 2012 (Table 4).

Table 4
Multivariate probit models on the labour supply of women by age groups, 2012

VARIABLES	2012					
	Labour supply	20-29		30-39		40-54
		In couple	Labour supply	Labour supply	In couple	Labour supply
Age	-1.548 (0.987)	0.188*** (0.0290)	-1.995** (0.945)	.2270303 (0.363)	0.0776*** (0.0165)	-0.0250 (0.201)
Age squared	0.0319* (0.0193)		0.0400** (0.0187)	-0.00265 (0.00522)		5.10e-05 (0.00211)
Other eq. family income	0.0593* (0.0318)	-0.0229** (0.00902)	0.0574** (0.0274)	-0.00903 (0.00748)	-0.0101 (0.0065)	-0.0199*** (0.00498)
Children 0-2	-0.617** (0.279)		-0.649** (0.255)	-0.311*** (0.0913)		-0.241 (0.254)
Children 3-5	-0.168 (0.334)		-0.221 (0.286)	-0.242*** (0.0867)		-0.170 (0.139)
Children 6-10	-0.382 (0.378)		-0.455 (0.387)	-0.463*** (0.0951)		-0.0875 (0.0876)
High school	-0.0427 (0.290)	-0.280* (0.161)	0.000368 (0.274)	0.505*** (0.123)	0,0942 (0.124)	0.455*** (0.0834)
Degree	0,632 (0.522)	-0.503*** (0.144)	0.732** (0.359)	0.805*** (0.135)	0,0935 (0.100)	1.225*** (0.0940)
Regional unemp.	1.965 (2,252)		2.223 (2,17)	-0.751 (0.661)		-2.207*** (0.545)
Part. unemployed	1.499*** (0.369)		1.565*** (0.294)	0.752*** (0.152)		0.979*** (0.0880)
Partner PT	1.552*** (0.444)		1.734*** (0.432)	1.083*** (0.217)		1.024*** (0.129)
Partner temp.	0,348 (0.282)		0,392 (0.277)	0.324*** (0.123)		0.411*** (0.0863)
Partner Self-employed	1.101** (0.432)		1.051** (0.433)	0.304** (0.118)		0.251*** (0.0794)
Mortgage	-0.150 (0.267)		-0.0240 (0.244)	0.179** (0.0829)		0.246*** (0.0687)
Born in EU countries		1.512*** (0.265)			0.592*** (0.212)	
Born outside Europe		0.855*** (0.187)			0.515*** (0.152)	
Density populated area		-0.177 (0.147)			-0.191** (0.0826)	
Intermediate populated area		0,0785 (0.162)			0,125 (0.0938)	
chronic ill		0,0829 (0.228)			-0.196 (0.143)	
temporary worker		-0.396** (0.178)			-0.295*** (0.113)	

unemployed		-0.420***			-0.499***	
		(0.150)			(0.0948)	
student		-1.073***			-1.021**	
		(0.275)			(0.403)	
Constant	17.29	-4.715***	23.61**	-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	0		0
Wald test of ind. eq.						
Chi ² (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

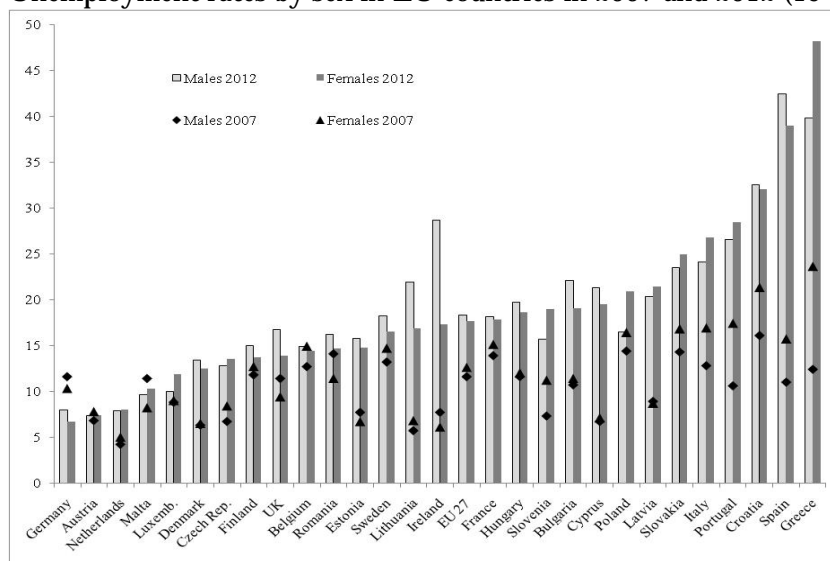
Variables	2007			2012		
	20-29 ^a	30-39 ^a	40-54 ^b	20-29 ^b	30-39 ^a	40-54 ^b
Age	-0.0129 (0.0813)	0,155 (0.117)	-0.0480 (0.0566)	-0.439** (0.206)	.0585589 (0.0937)	-0.00672 (0.0540)
Age squared	0.00155 (0.00159)	-0.00223 (0.00168)	0.000467 (0.000599)	0.00880** (0.00409)	-0.000684 (0.00135)	1.37e-05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

^a Marginal effects Heckman probit models

^b Marginal effects probit models

Source: Authors' elaborations on ES SILC 2012 and ES SILC 2007.

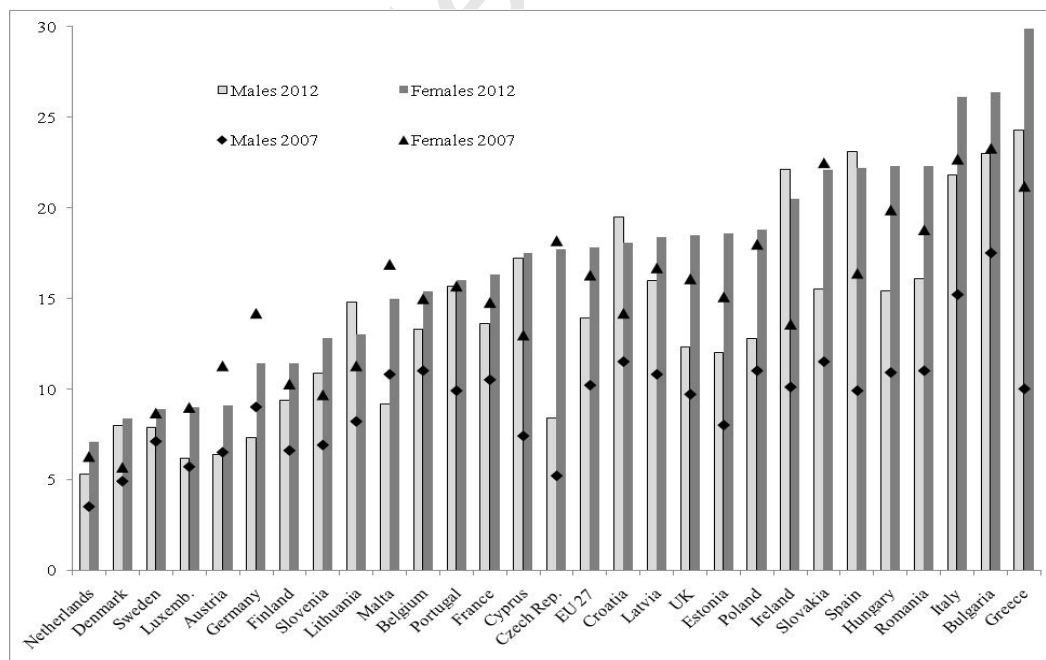
Figure 1
Unemployment rates by sex in EU countries in 2007 and 2012 (15-29 years)



Source: Authors' elaborations on the European Labour Force Survey.

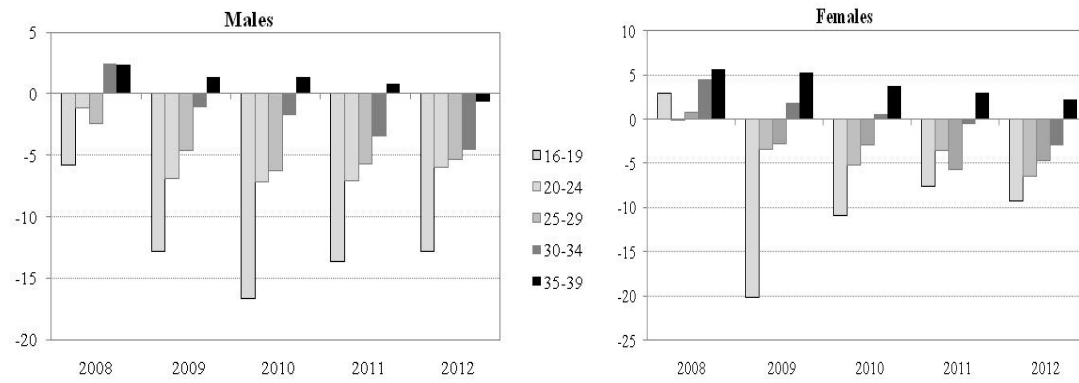
Figure 2

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



Source: Authors' elaborations on the European Labour Force Survey.

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



Source: Authors' elaborations on the European Labour Force Survey.