Dipartimento di Economia Politica

Materiali di discussione

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Income distribution and the effect of the financial crisis on the Italian and Spanish labour markets

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Abstract

This paper aims at estimating the costs of the current crisis in terms of income distribution and poverty taking into account - by means of microsimulation techniques - the change in employment status in Spain and Italy. We construct a micro simulation analysis on the impact of the crisis on unemployment, household income, and inequality using the European Statistics on Income and Living Conditions Surveys, and Labour Force Surveys data for Italy and Spain with reference to different types of households. We consider the effect of joblessness on household income and well-being and the impact of different systems of unemployment benefit on unemployment sustainability. Our focus is not only on the pecuniary dimension of well-being, but also in terms of the costs of limited access to medical and dental treatment and analyses.

JEL Codes: I32, J6, J65

1. **Introduction**[1]

The current crisis is the most severe since the Great Depression. It is therefore important to analyze both the short-term cyclical effects on families and individuals and also the long-term effects on investment and economic growth. Since the crisis has significantly increased unemployment rates with differential effects on living standards, our objective is to analyse the short-term socioeconomic effects of high unemployment, while at the same time, potential factors affecting long-term growth will be delineated.

We focus on the Spanish and Italian economies. Both of them are members of the Euro Zone and their labour markets bear important resemblances and important differences too. The Spanish labour market is considered one of the most inflexible in the world (World Economic Forum, 2010) and it is characterized by a strong duality: fixed-term versus open-ended contracts. As a consequence of this, the Spanish unemployment rate is twice as high as the European average. Furthermore, temporary employment accounted for close to 90 percent of all job losses in the 12 months to June 2009 (European Commission, 2009, p. 16). On the other hand, Spain and Italy have employment protection systems corresponding to the Mediterranean model and are characterized, therefore, by a rather low coverage of unemployment benefits (Sapir, 2005). However, the conditions for the receipt of benefits and the benefits duration and amounts they offer differ. So, their capability to palliate the socioeconomic consequences of the crisis could differ too.

In this regard, we will consider the effect of joblessness on household income and well-being and the impact of different systems of unemployment benefit on unemployment sustainability. Our focus is not only on the pecuniary dimension of well-being, but also in terms of the costs of limited access to medical and dental treatment and analyses. We will construct a micro simulation analysis on the impact of the crisis on unemployment, household income, and inequality using the European Statistics on Income and Living Conditions Surveys, and Labour Force Surveys data for Italy and Spain.

The remainder of the paper is organized as follows: Section 2 addresses the characteristics of the Italian and Spanish labour markets before and after the crisis. The third section will analyze their unemployment protection systems. Our findings from the multivariate analysis on the costs of unemployment in Italy and Spain before the crisis are shown in Section 4, while the methodology used to micro simulate the effect of the crisis on income distribution and income poverty in Italy and Spain, together with results of its application, will be presented in Section 5. The final section will offer conclusions and suggest policies based on our findings.

2. The Italian and Spanish Labour Markets and the Financial Crisis

In this Section we compare the Italian and Spanish labour markets before the crisis to highlight their peculiarities, and to identify the critical situation in terms of the safety net or the likelihood of being unemployed before the crisis. The latest data on the situation after the crisis will be then analysed to detect the main differences in order to ascertain the impact of the crisis.

2.1 – An Overview of the Italian and Spanish Labour markets

The data in Table 1 clearly show a lower level of activity in Italy than in Spain. In fact, the Italian activity rate remains 8.5 percentage points below the Euro Zone, while the Spanish activity rate outperformed it. Moreover, male activity rate is 8 points lower in Italy than in Spain, and women's activity rate is 10.7 percentage points lower. In the comparative analysis attention will be paid to the reaction of the labour force to the crisis in terms of participation.

A phenomenon to note for the purpose of our investigation is the increase in the share of foreigners in the workforce. The fact that they are more likely to be in short-term employment positions or to work irregularly, could raise an issue of a greater exposure to joblessness and of lack of coverage by the safety net. Especially striking is the case of Spain where the foreign labour force grew by 2247.5 percent in 2007 compared to 1995 owing to, above all, the incorporation of non-EU citizens. We must point out that the activity rate of male foreigners is similar in Italy and Spain, while it is significantly lower for women foreigners in Italy than in Spain (Albisinni, 2008).

The analysis of the activity rate by age groups shows that the selected labour markets have common features: an activity concentration in the central age groups and

an increasing activity for the population aged 55 to 64, the latter being more pronounced in Spain. In fact, the average age at exit from the labour market has increased in Spain by almost two years since 2001 - by 2.4 years for women. Italy has a similar pattern but, again, less intense than in Spain which is the only economy in which the average retirement age of women exceeds that of men by 1.4 years. It should be stressed that the EU is promoting greater participation of older population strata in the labour market as a result of the Lisbon Strategy and of the new European Strategy "Europe 2020".

Table 1 – The characteristics of the Italian and Spanish labour markets

| | 2007 | | | 2009 | | |
	EURO ZONE	ITALY	SPAIN	EURO ZONE	ITALY	SPAIN
ACTIVITY RATE						
TOTAL	71.0	62.5	71.6	71.5	62.4	73.0
BREAKDOWN BY SEX						
MALES	78.6	74.4	81.4	78.5	73.7	81.0
FEMALES	63.4	50.7	61.4	64.6	51.1	64.8
BREAKDOWN BY AGE						
15 TO 24 YEARS	44.7	30.9	47.8	43.9	29.1	45.1
25 TO 54 YEARS	84.8	77.6	82.8	85.3	77.2	84.7
55 TO 64 YEARS	46.2	34.6	47.4	48.4	37.0	50.2
BREAKDOWN BY NATIONALITIES						
TOTAL FOREIGNERS	73.5	64.4	69.8	73.7	67.4	72.6
CITIZENS OF OTHER UE-15 COUNTRIES	73.5	64.4	69.8	73.7	67.4	72.6
CITIZENS OF NON-UE15 COUNTRIES	70.0	73.6	79.6	70.9	72.9	79.8
EMPLOYMENT						
BREAKDOWN BY STATUS						
EMPLOYEES	83.48	73.93	82.33	84.7	76.0	83.3
SELF-EMPLOYED	9.94	17.27	11.04	9.3	16.1	10.2
EMPLOYERS	5.26	6.99	5.49	5.0	6.4	5.6
BREAKDOWN BY ACTIVITY BRANCH						
AGRICULTURE	3.9	4	4.5	3.2	3.5	4.1
INDUSTRY	24.8	28.6	28.6	26.0	29.5	24.8
SERVICES	71.2	67.4	66.9	70.7	67.0	71.1
TEMPORARY CONTRACTS						
TOTAL	16.8	13.2	31.7	15.2	12.5	25.5
BREAKDOWN BY SEX						
MALES	15.9	11.2	30.6	14.1	10.8	23.8
FEMALES	17.8	16.0	33.1	16.5	14.6	27.3
BREAKDOWN BY AGE						
15 TO 24 YEARS	51.3	42.3	62.8	49.9	44.4	55.9
25 TO 49 YEARS	14.2	12.2	31.0	12.9	11.6	25.7
50 TO 64 YEARS	6.8	6.3	15.3	6.3	5.7	12.0

% WITH TERTIARY EDUCATION	21.9	17.5	26.7	23.71	18.24	30.5
BREAKDOWN BY ACTIVITY						
AGRICULTURE	4.1	10.1	5.5	3.7	9.8	6.3
INDUSTRY	26.71	49.7	34.64	22.0	22.3	25.2
SERVICES	69.19	40.2	59.86	74.3	67.8	68.5
PART-TIME WORKERS						
TOTAL	19.7	13.6	11.8	19.5	14.1	12.6
MALES	7.5	5	4.1	7.3	4.7	4.7
FEMALES	35.2	26.9	22.8	34.5	27.9	22.9
UNEMPLOYMENT RATES						
TOTAL	7.4	6.1	8.3	9.5	7.9	18.1
BREAKDOWN BY SEX						
MALES	6.6	4.9	6.4	9.3	6.9	17.8
FEMALES	8.5	7.9	10.9	9.7	9.3	18.5
BREAKDOWN BY AGE						
15 TO 24 YEARS	15.0	20.3	18.2	19.7	25.4	37.8
25 TO 49 YEARS	6.7	5.8	7.4	8.9	7.4	17.1
50 TO 64 YEARS	6.1	2.5	6.1	6.8	3.7	18.3
BREAKDOWN BY NATIONALITY						
TOTAL OF FOREIGNERS	13.1	8.3	12.2	17.7	11.2	28.5
CITIZENS OF OTHER UE-15 COUNTRIES	7.9		9.8	9.8	6.4	18.8
CITIZENS OF NON-UE15 COUNTRIES	14.7	8.4	12.5	19.9	11.4	29.5
BREAKDOWN BY HIGHEST LEVEL OF EDUCATION						
PRE-PRIMARY, PRIMARY AND LOWER SECONDARY	10.5	7.3	10.5	15.1	9.6	24.7
UPPER SECONDARY AND POST-SECONDARY NON-TERTIARY	7	5.6	6.1	8.5	7.3	17.1
TERTIARY EDUCATION	4.4	4.4	5.3	5.4	5.6	9.8

Source: Eurostat -Labour Force Survey-

Especially relevant is the contrast of the activity rate of the 15-24 year-olds between Spain and Italy and the Euro Zone. This implies a less qualified labour force in Spain and, therefore, lower productivity and higher unemployment rates (Berger, Keuschnigg, Keuschnigg, Miesse, Strohner, and Winter-Ebner, R., 2009, p. 15) that affect poverty and well-being levels due to the nature of the Spanish unemployment protection system.

Regarding the professional status of employment -employees, self-employed or employers- we must stress the importance of the self-employed in Spain that is still higher if compared to the Euro Zone, but significantly lower than in Italy. By industry, 2007 data show a clear concentration of employment in the service sector which is more marked in Spain, and male employment generation in the secondary sector is also remarkable, especially in the period 1997-2001, owing to the construction bubble. The

generation of female employment was concentrated in the service sector in Spain and in Italy, reducing the relative weight of women in agriculture and industry. This would explain the different impact of the Sub-prime crisis on male and female employment.

Temporary hiring is another prominent feature of the Spanish labour market. Since its liberalization in the labour reform of 1984, it increased significantly and in 2007 its levels were about twice the European and Italian levels. It should be noted that the Italian labour market, though increasing, has a lower rate of temporary contracts compared to the Euro Zone but not by a great margin. Again this difference in size of a more unstable employment should mean different costs of joblessness in the two labour markets.

Temporary employment is more prevalent for women than men in all cases, although this gender gap is most pronounced in Spain and Italy. It also affects younger people more, especially those aged between 15 and 24, and in Spain, manufacturing activities, construction and trade sectors. In Italy, the evidence suggests increased fixed-terms jobs in agriculture and industry, although general trade has also increased. It should be stressed that in Spain, 26.7 percent of employees with university education had temporary jobs, which shows that educational training does not protect the workforce against unstable work conditions in this country, with the same intensity as it does in the Euro Zone or Italy. All these differences can be reflected in different situations experienced by the unemployed before the crisis.

Although it is increasing, part-time employment as a percentage of total employment is still lower in Italy and Spain[2] than in the Euro Zone, and the gap is higher in Spain. The incidence of women's employment on part-time employed in 2007 is 78.5% in Italy and 79.8% in Spain and women's part-time employment on total women's employment is higher in Italy (almost 30% in 2007) than in Spain (20.9%). Amongst the part-time employed one should notice that the incidence of involuntary part-time is higher in Spain and Italy than the average in the Euro Zone. According to OECD statistics in 2007, 35% of men employed part-time were involuntary working part-time in Italy and 33% in Spain; the percentage of involuntary part-time workers for women was 27% in Italy and 32.9% in Spain (http://stats.oecd.org).

As regards unemployment, it should be noted that female unemployment in 2007 is well above the male, both in the Spanish and in the Italian labour market. This trait is

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[2] Part-time hiring is less frequent in Spain since it is for an unlimited period and it is displaced by more flexible fixed-term contracts.

not so marked in the Euro Zone. As far as age groups are concerned, those aged between 50 and 64 years suffer from greater difficulty in entering the labour market. Nevertheless, unemployment is more prevalent in the first two age intervals, up to 49 years.

On the other hand, despite the continued decline in unemployment in the Spanish labour market between 1995 and 2007, the unemployed foreigners had increased by 1,122.5 percent in that period. In 2007, 19.3 percent of the unemployed in Spain were non-EU citizens while only 1.7 percent were citizens of other EU Member States.

In 2007 the Italian and Spanish unemployment rates had reached 6.1 percent and 8.3 percent respectively and were more in line with that of the Euro Zone, 7.4 percent. In fact, Italian and Spanish rates of male unemployment were below the Euro Zone rate in 2007 (6.4 percent and 4.9 percent versus 6.6 percent). However, the female rates, always higher than the male ones, were still higher in Spain than in the Euro Zone -10.9 percent versus 8.5 percent.

The analysis of unemployment rates by age shows a higher level of unemployment in the 15-24 age group both in Italy and in Spain, with a rate that is twice as much as the rate recorded for the interval 25-49.

Another point to note is that the unemployment rate decreases with higher levels of education, but a qualification offers less protection against unemployment in the Spanish and Italian labour markets than in the Euro Zone. However, in Spain the opposite is true for women. In 2007 the difference between the unemployment rate for those with lesser qualifications and the unemployment rate for the university graduates was of 6.1, 5.2 and 2.9 percentage points in the Euro Zone, Spain and Italy respectively. For women that difference was of 7.5, 4.7, 8.4 percentage points in the Euro Zone, Italy and Spain, respectively.

Moreover, long-term unemployment has a lower incidence in Spain than in the Euro Zone since 1998, and it has experienced a significant reduction over the 1995-2007 period to reach 20.4 in 2007, with a higher share of long-term unemployed amongst women than men. Italy has not followed this path and maintains a long-term unemployment of 47.4 percent on average, with a higher share of long-term unemployed amongst women than men.

Finally, it should be underlined that regions are affected by unemployment with different intensities both in Spain and in Italy. Ceuta, Melilla, Andalucía, Extremadura,

Asturias maintain unemployment rates much higher than the national total in Spain, and they are respectively equal to 20.3 percent, 18.2 percent, 12.8 percent, 13.1 percent and 8.5 percent, compared to an average rate of 8.3 percent in 2007. In Italy the Southern regions suffer more intensely from unemployment, especially Calabria, Campania and Sicily: respectively 11.2 percent, 11.2 percent and 13.0 percent versus 6.1 percent in 2007.

In short, gender, age, nationality, region of residence, job quality, qualification, activity sector and occupation status put a person in different positions in the Spanish and Italian labour markets and, therefore, have a bearing on the probability of job losses before an economic crisis and on the inequality, poverty and well-being levels of the countries.

2.2 Consequences of the crisis on the Italian and Spanish Labour Markets

Although it was in 2006 when it was first detected that the homeowners who had taken out mortgages in the U.S. could not repay their loans, it was not until the following year when distrust began to break out among financial institutions. As a consequence, interbank interest rates increased, and the price of banking shares fell, culminating in the current crisis in the summer-autumn 2008. Then, economic rescue plans began to be designed and implemented, as the financial crisis moved to the real economy through the contraction of the flows of spending, investment and international trade and, therefore, affecting income levels and, as a consequence, the labour markets.

In this sense, the impact of the crisis of the sub-prime mortgages in the Spanish labour market has been far more virulently felt there than in Italy: the unemployment rate increased by 4.9 percentage points from last quarter of 2008 and the corresponding to 2009, while in Italy it grew by 1.5 percentage points. At the end of 2009 the unemployment rate stood at 18.8 percent in Spain, 8.6 percent in Italy and 9.7 percent in the Euro Zone. These are relevant figures, bearing in mind that the OECD estimates put the rate in the fourth quarter of 2010 to 19.8 percent for Spain and 10.5 percent for Italy (OECD, 2009a, p.27). However, as we will analyse in the following Section, the Italian labour market indicators on joblessness are worse than it appears by using the official unemployment rate according to the ILO definition. If account is taken for unemployed who were not actively seeking a job in the 4 weeks before the interview but they had

been seeking work before (but they had become discouraged) and for wage guarantee fund beneficiaries who are not included in the official unemployment figures.

It is worth noting at this point the social impact of high unemployment rates: they imply a decrease in purchasing power, a loss of human capital and the so-called discouraged effect among long-term unemployed (Berger, Keuschnigg, Keuschnigg, Miesse Strohner, and Winter-Ebner, 2009, p. 14), their social costs being wide (Sen, 1997a,b).

This rise in unemployment rates is explained by the high level of job losses registered, over all, in the last quarter of 2008 and in the first one of 2009. In the case of Spain, it was about six times that of the Euro Zone. This is despite the slight fall in Spanish activity rate due to the evolution of the male labour force. This differential behaviour could have been influenced by the fact that the destruction of employment in Spain has been more severe for men than for women, 4.2 percentage points superior. However, the female unemployment rates in 2009 are 18.5 percent and 9.3 percent in Spain and Italy respectively versus 17.8 percent and 6.9 percent reached by men.

By age groups, the Spanish unemployment rate rose more in older intervals on-year, especially among those over 65 years in the last quarter of 2009. However, they have suffered less job destruction. In the Euro Zone, the range of 25-54 years has experienced a larger increase in the unemployment rate. However, it should be noted that in 2009, the unemployment rate of the youngest group, 15 to 24 year olds, reached 37.8 percent in Spain. This age range is the hardest hit by job losses which must to be reflected in income inequality, income poverty and well-being levels given the running of Spanish unemployment protection system. It can be seen that the activity rate of this group fell in 2009 compared to 2007. This could imply a larger involvement in education by young Spanish individuals.

Italy shows a behaviour closer to the Euro Zone, although its unemployment rate for those aged between 15 and 24 years is 25.4 percent. It is also the age range most affected by job losses in Italy: 8.1 percent versus 2.7 percent for those located between 25 and 54 years and versus a generation of employment in the other age group. It should be noted at this point that the increase in the activity rate in the 55-64 years cluster and the decrease for the 15-24 years interval. This implies a new postponement of entry of the Italian youth into the labour market.

Interestingly, the increase of the unemployment rate is higher among citizens of others EU countries. However, in 2009 the unemployment rate of non-EU citizens was

29.5 percent in Spain while that of the EU citizens was 18.8 percent. In all the other cases this difference is also evident but with less intensity.

Finally, it should be highlighted that the unemployment rate rose more strongly for those who have a higher educational level, although job destruction is greater among those with secondary education, except for Italy. The Euro Area recorded an increase in employment of university graduates and Spanish job destruction is lower for this group. However, the Italian labour market penalizes university graduates in the same way as those with lesser qualifications.

In short, the differential characteristic of Spanish labour market before the current economic crisis is its higher employment destruction. Actually, it is a structural feature of the Spanish economy: in every recession since 1970s Spain has doubled the average unemployment rate of Europe. The root of this problem is the combination of wage rigidity and duality –indefinite contracts versus fixed-term contracts. The World Economic Forum (2010) confirms this by placing the Spanish labour market amongst the most inefficient in the world: 124th place in wage flexibility, 137th position in hiring and firing practices and 119th place in employment rigidity. Italy is in the 90th place in the latest ranking.

3. **Comparison between the Italian and Spanish Benefit System**

The unemployment insurance system in Italy – Table 2 – is characterized by inequalities derived from differences in the eligibility conditions and in the different duration and degree of coverage (Anastasia, Mancini and Trivellato, 2009). The ratio of contributory unemployment benefit with respect to previous earnings can range from 80 percent for ordinary and special wage supplementation funds to 40 percent for ordinary unemployment benefits after the eighth month of the unemployment spell.

Table 2 – The Italian and Spanish unemployment benefit systems (2008)

	BENEFIT	CONDITIONS FOR RECEIPT	DURATION	AMOUNT
ITALY	ORDINARY UNEMPLOYMENT BENEFITS*	*Ordinary Requirement*: Contribution for at least 52 weeks during the two-year period prior unemployment	Maximum of 8 months (12 for unemployed aged over-50)	60 per cent of the average gross earnings received over the last three months for the first 6 months, 50 per cent for the 7th month, 40 per cent for the following months. Maximum = EUR 1031.93
		Reduced Requirement: To work at least 78 days over the last year	Number of days previously worked for a maximum of 180 days	35 per cent of the average daily wage for the first 120 days, 40% of the average daily wage for the following days. Maximum = EUR 1031.93
	WAGE SUPLEMENTATION FUNDS (CIGs)**	*Ordinary*: Non-worked hours due to temporary reduction or suspension of activity	Usually 13 weeks. Maximum 12 months over a period of two years	80 per cent of the average gross earnings paid for non-worked hours. Maximum = unemployment benefits
		Special: Suspension of activity due to sector or area-specific firm restructuring	Normally 12 up to 24 months. Maximum 36 months over 5 years	
	MOBILITY BENEFITS	Collective dismissals by firms elegible for benefit from the CIGs and individual dismissal of workers already in CIGs or under bankruptcy proceedings	It depends on the age of recipient and on the location of the job.	Equal CIGs for the first 12 months. They are reduced by 20 per cent after one year. Maximum= unemployment benefits
SPAIN	UNEMPLOYMENT INSURANCE***	Contribution for a minimum of 360 days in the 6 years preceding the legal status of unemployment	It increases with contribution record. Maximum of 720 days.	70 per cent of reference earnings -average gross earnings over the last 180 days- for a maximum period of 180 days, then 60 per cent of the reference earnings for the remaining period. Maximum= EUR 1356,86
	UNEMPLOYMENT ASSISTANCE****	Unemployed without any income of any kind which exceeds 75 per cent of the minimum inter-professional wage and in a special social situation	In general 6 months. Maximum of 18 months (24 or 30 months for claimants whose contributory benefit has run out and have family responsibilities)	80 per cent of the IPREM (413,52)
	ACTIVE INCOME FOR JOB INSERTION	To meet special social situations like to be a disabled worker.	Maximum of 11 months.	80 per cent of the IPREM (413,52)

* Particular and more favourable conditions hold for workers in the agricultural and in the building sector.

** Workers of small manufacturing firms and of most service activities are excluded

*** Particular conditions hold for workers in the agricultural sector.

**** Those older than 45 who have exhausted their entitlement to contributory benefit for 24 months can receive from 80 to 133 per cent of IPREM

Source: OECD, 2009b

Since eligibility requires previous employment, there is on average a relatively low degree of coverage. According to OECD data the net replacement rate during the first year of an unemployment spell in 2007 was 37 percent in Italy with a 5 year average of 7 percent against a OECD average of 52 percent (from 72 percent in Norway to the lowest rate experienced by the USA and Korea) (OECD, 2009a, Table 1.6 p.76). In Italy there is a high variation in the degree of coverage of the unemployment benefits system according to the type of contract: amongst permanent employees about 96 percent would be subsidized, this is against against 70 percent of fixed term contract workers and about 17 percent of collaborators (Bank of Italy, 2009a).

In Italy, the number of workers who have access to the wage supplementation fund has increased. According to National Social Insurance Institute data in the second quarter 2009 the number of hours paid by the wage supplementation fund increased by 60 percent compared to the first quarter, with the highest increase since 1985 of the number of employees under this fund who are not statistically computed amongst the unemployed (Bank of Italy, 2009b). The number of the National Social Insurance Institute (INPS) authorized wage guarantee fund hours increased by 311.4% from 2008 to 2009 (INPS data). The highest increase in 2009 was in the metallurgic sector (+866%) followed by the mechanical (+449%), wooden (+425%), trade (+410%), transport and telecommunication (+397%), mineral and non metal minerals work (+335%), services (+335%) and extraction (+328%) (INPS data). Computing employees receiving wage guarantee funds amongst the unemployed, the unemployment rate in northern-central Italy would increase by 1.4 percent and in the South by 0.7 percent (Bank of Italy, 2010). By including unemployed who were not actively seeking a job in the 4 weeks before the interview but they had been looking for a job before (discouraged) and wage supplementation fund beneficiaries, the Italian unemployment rate in the second 2009 quarter would have increased to 10.2% instead of 7.4%; the increase due to computation of wage supplementation fund beneficiaries is estimated to account for 1.2% while computing also the discouraged would have accounted for 1.6% of the increase (Bank of Italy, 2010).

Notwithstanding the recent extension of the wage guarantee fund system, of the ordinary unemployment benefit to fired apprentices with a minimum of three months tenure, and also the inclusion in the tenure of eligibility to ordinary unemployment benefits for employment spells as collaborators and provisions for a subgroup of collaborators introduced by the Italian government (laws 2/2009; 33/2009 and

191/2009), Bank of Italy's simulations on EU SILC and Istat Labour force survey data show that about 1,6 million employees or those under collaboration contract would not have access to unemployment benefits in case of redundancy or contract interruption (Bank of Italy, 2009a). Berton, Richiardi and Sacchi (2009) simulation based on the National Social Security Institute INPS microdata show that from 1,500,000 to 2,000,000 workers would not be covered by unemployment benefits if they lose their job.

On the other hand, the Spanish unemployment protection system includes, in addition to the contributory benefit, assistance benefits and the so-called Active Insertion Income (AII, see table 2). The coverage of unemployment contributory benefit in Spain varies depending on the contribution made to the system – work days accumulated - and prior employment status of the unemployed since the employee's contribution base determines the amount of compensation. This is graduated as time in unemployment increases. The existing subsidies are linked to possession of income no higher than 75 percent of the monthly minimum wage and provide no more that 80 percent of PIMEI[3].

The AII, introduced in 2000 with the differentiated nature of contributory and assistance benefits, is a program to support the employability of groups with special difficulties in entering the labour market and with financial needs, such as the long-term unemployed, people with disabilities, returnees and victims of gender violence or domestic violence. In 2010 it is a monthly payment of EUR 426.00, with supplements in certain situations, as well as contributions for the Social Security to health care benefits and family protection.

According to OECD data, the net replacement rate during the first year of unemployment in 2007 was 69 percent with a five-year average of 39 percent in Spain compared to an OECD average of 52 percent and 28 percent (OECD, 2009a, Table 1.6, p.76). The Spanish system is, therefore, more generous than the Italian one if we go by this criterion.

In the first quarter of 2010 the number of beneficiaries of the assistance level of unemployment protection system in Spain had increased by 82.5 percent over the same period in 2009. However, those covered by contributory benefits had dropped by 1.7 percent. The annual increase in the total beneficiaries of the whole protection system,

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[3] Public Indicator of Multiple Effect Income replaced the minimum wage in July 1, 2004 as a benchmark in social benefits, but the conditions of access and maintenance to keep them are still referenced to.

contributory benefit, assistance benefits and Active Insertion Income, in 2009 was 47.8 percent. Of these, 13.86 percent were foreigners benefiting mainly the contributory level, although the assistance level and the Active Insertion Income additions have been the highest since 2008. In 2009 the coverage rate of the Spanish system of unemployment protection was 75.48 percent (Spanish Ministry of Labour and Immigration)

By sector of activity, the highest rates of yearly change in the first quarter of 2010 were recorded in Agriculture and Services in the contributory level and in Construction and Industry in the assistance level (Spanish Ministry of Labour and Immigration). This would affect levels of income inequality, income poverty and well-being in Spain since the current crisis has negatively affected these activity sectors more intensively.

It should be stressed that, according to OECD (2009a, pp. 62-63), labour market program spending, both in Italy and in Spain, is comparable with that of the countries with a strong aggregate employment performance, but more weighted towards passive benefits. According to Eurostat 2007 data on labour market policies (Eurostat, 2009a, Table B.1.2 p.13) in 2007, support labour market policies amounted to an average of 60.8 percent in EU-15 countries, to an estimate of 66.8 percent in Spain and to 63.7 percent in Italy.

Having assessed the extent of unemployment in the two countries by using descriptive statistics and the differences in the unemployment benefit systems, the aim of the following sections of this paper is to analyse the costs of unemployment in Italy and Spain (Section 4) and, given the current non availability of data on income, to use micro simulation techniques in order to estimate the costs of unemployment in terms of income inequality and income poverty (Section 5).

4. The experience of unemployment in Italy and Spain

In this section we carry out a multivariate analysis to estimate the effect of joblessness on household income and well-being and the impact of previous employment status (and related unemployment benefit) on unemployment sustainability. Our focus is not only on the pecuniary dimension of well-being, but also the socio-economic impacts of unemployment.

A direct cost of unemployment is loss of income. Italian unemployment benefits are very fragmented and this can produce different costs according to one's prior

employment status. OECD (2009a) analysis on the ability of the social transfer system to alleviate poverty indicates that in Italy the alleviation of poverty focuses more on jobless householders than on working households. In Spain the impact of social transfer on poverty rate is neutral toward these two groups.

The latest available EU SILC – European Union Statistics on Income and Living Conditions for Italy (IT SILC 2008) refer to 2007 income and report the difficulties experienced by families in the 12 months preceding the last quarter of 2008. Preliminary results indicate an increase in the number of households who have experienced great difficulties in making ends meet (17% in 2008 against 15.4% in 2007); with worse numbers in the South of Italy (from 22% in 2007 to 25.6% in 2008) whereas it is stable and lower in the Centre (14.3%) North (12.6%) (Istat, 2009c). The results of the EU SILC-European Union Statistics on Income and Living Conditions for Spain (ES SILC 2008) point out an increase in the number of households with difficulties in making ends meet from 10.3% in 2007 to 12.2% in 2008[4].

We extend our analysis to the increased probability of the unemployed being income poor. For this purpose we have estimated a probit model using IT SILC 2007 and ES SILC 2007 microdata[5]. The results in Table 3a indicate that unemployment increases the probability of being defined as income poor (when the equivalised disposable income is less than the poverty threshold: 60% of median equivalised disposable income[6]). The probability of being income poor in Italy significantly increases amongst those unemployed who have previously been self-employed (27%). Those who were formerly employees, though experiencing an increase in the probability of being defined income poor, show a lower probability to be income poor than other unemployed, the probability of being in poverty increases by 8% in this case. The probability of being income poor if unemployed and never worked before increases by 16%, while for the inactive the poverty probability increases by 2%. The higher income

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[4] We do not include geographical areas disaggregation for Spain because the first level of disaggregation of Eurostat (nuts) does not reflect the heterogeneity of the Spanish labour market. To obtain significant results we should refer to the eighteen autonomous communities plus the two autonomous cities. This will task of a future paper.

[5] For this purpose we estimate probit models as they can be considered an appropriate response model when the dependent variable is dichotomous. Our response probability is included in the [0,1] interval, and it is defined as the standard normal cdf of a linear function of the independent variables (Greene, 2008).

[6] Equivalised total disposable household income has been obtained by using the modified OECD equivalence scale.

poverty probability for unemployed previously self-employed can be connected to the inclusion in this group of self-employed without employees or to those who were in non-standard collaboration working positions with lower or null unemployment protection and lower level of income.

In the Spanish case (see Table 3b) the probability of being income poor significantly increases among those who have never worked before (34%). This group is followed by the unemployed who have previously been self-employed (19%). The individuals who were formerly employees present a lower probability than the former to be under the poverty threshold. Nonetheless, their probability of being below the poverty threshold increases by 13%. The probability of being income poor also increases for the inactive (12%) and for the part time worker, although the increase is lower for the latter (4%).

By comparing the marginal effects of different education levels in the two countries one can see that higher education protects more against the risk of unemployment in Italy than in Spain, with a higher effect for those with the highest level of education. Turning to the current job position, part-time work increases the poverty probability in Spain whereas it decreases the probability of being poor in Italy. The latter can be connected to the higher diffusion of part-time work in the Northern part of Italy where household's income is on average higher and part-time work is more often chosen by women for family reasons. When we consider the previous employment condition before the person has become unemployed, we can see that in Italy the higher risk of being poor is connected to being previously self-employed, in this case the Italians bear an increase in poverty probability by 27%, while for the Spanish the poverty probability increases more if the person has never been employed before. This difference may be connected to the higher protection role played by the family of origin in Italy than in Spain, and it can also be reason behind the observed lower poverty probability for the inactive in Italy than in Spain.

We test whether the differences between the two countries are statistically significant by applying a Hausman-White-Test (White, 1994), on the set of variables' coefficients that are common to the two countries. In particular, we use the `suest` STATA command proposed by Weesie (1999), that computes a Seemingly-Unrelated Cluster-Adjusted Sandwich-Estimator and we find that the coefficients of the predictor variables statistically differ between the two countries.

Table 3a – Probability of being income poor in Italy

Probability of being income poor		
	Coefficients (robust z)	Marginal effects at means
Age	0.045**	0.01
	(6.13)	
Age squared	-0.001**	-0.0001
	(6.88)	
Female	-0.083**	-0.02
	(2.99)	
Married or cohabiting	-0.192**	-0.04
	(4.65)	
Sep. Divorced	0.247**	0.06
	(4.43)	
Widow	0.032	0.01
	(0.36)	
Secondary	-0.293**	-0.06
	(7.40)	
High school	-0.634**	-0.13
	(15.46)	
Tertiary	-1.060**	-0.15
	(17.04)	
Part-time	-0.416**	-0.09
	(8.44)	
Unemployed previously self - employed	0.864**	0.27
	(6.35)	
Unemployed previously employee	0.301**	0.08
	(4.34)	
Unemployed never employed before	0.563**	0.16
	(6.80)	
Inactive	0.097*	0.02
	(1.98)	
Chronic ill	0.061	0.01
	(1.67)	
At least one child aged less than 5	0.287**	0.07
	(7.03)	
At least one child aged from 6 to 14	0.255**	0.06
	(8.14)	
At least one child aged 15 to 17	0.295**	0.07
	(8.34)	
South	0.780**	0.19
	(30.75)	
Constant	-1.475**	
	(9.91)	
Observations	33,423	

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

Table 3b-Probability of being income poor in Spain

Probability of being income poor	Coefficients (robust z)	Marginal effects at means
Age	0.032**	0.01
	(4.42)	
Age squared	-0.001**	-0.00009
	(5)	
Female	-0.075**	-0.02
	(2.73)	
Married	-0.090**	-0.02
	(2.40)	
Sep. divorced	0.256**	0.06
	(3.95)	
Widow	-0.427**	-0.07
	(4.21)	
Secondary	-0.171**	-0.033
	(4.91)	
High school	-0.423**	-0.08
	(11.24)	
Tertiary	-0.687**	-0.12
	(17.35)	
Part-time	0.170**	0.04
	(3.52)	
Unemployed previously self-employed	0.689**	0.19
	(3.49)	
Unemployed previously employee	0.503**	0.13
	(11.27)	
Unemployed never employed before	1.022**	0.34
	(10)	
Inactive	0.520**	0.12
	(16)	
Chronic ill	0.011	0.002
	(0.33)	
At least one child aged less than 5	0.110*	0.023
	(2.16)	
At least one child aged less aged 6 to 14	0.208**	0.05
	(5.53)	
At least one child aged less aged 15 to 17	0.169**	0.04
	(2.78)	
Constant	-1.520**	
	(10.72)	
Observations	28,063	

Robust z statistics in parentheses
* significant at 5%, ** significant at 1%

In order to account for different dimensions of the costs of being unemployed, we have analysed the probability of having unmet medical or dental needs. Previous studies have outlined the relevance of non-pecuniary costs of joblessness (Sen, 1997b; Winkelmann and Winkelmann, 1998) including the costs connected to poorer mental

and physical health, with an increase in costs connected to the spell of unemployment and significant differences according to gender and the previous type of job (Sen, 1997b; Paul and Moser, 2009). Our analysis shows that unemployed have a higher probability of not having access to medical or dental visits or treatments since they are considered too expensive and that the result is different according to previous employment status. In fact this probability increases by 6% for unemployed previously self-employed and by 3% if they were previously employees in Italy (Table 4a).

In Spain, the unemployed have a higher probability of not having access to medical or dental treatment (see Table 4b). According to the previous employment status, the probability of not having medical or dental needs attended to increases by 2% for the unemployed who were previously employed.

The risk of having unmet medical and dental visits and treatments needs increases in Italy with the presence of children whereas the reverse holds for Spain, and this should be born in mind when assessing child well-being in terms of health status in the two countries. Turning to previous employment conditions, once again in Italy the group of unemployed who sees the higher increase in this cost of unemployment is made up of those unemployed who were previously self-employed (+6%) whereas in Spain the ones who bear the highest cost (considering previous employment condition to the current unemployment status) are those who were never employed before the unemployment spell (+5%). Notice that for this group of unemployed this 'health cost' decreases in Italy showing again probably a higher protection role played by the family that does not show up for youngest children.

Again, when computing the Hausman-White test, we can reject the null hypothesis that the coefficients of the predictor variables are the same for the two countries.

Table 4a – Probit model on the difficulties in accessing medical and dental visits-treatments in Italy

	Coeff.	Marg. Effects at means
Age	0.020*	0.02
	(2.31)	
Age squared	-0.000	-0.00002
	(1.69)	
Female	0.083**	0.01
	(2.61)	
Married or cohabiting	-0.027	-0.003
	(0.57)	
Sep. Divorced	0.244**	0.03
	(3.76)	
Widow	0.233*	0.03
	(2.52)	
Secondary	-0.186**	-0.02
	(4.04)	
High school	-0.346**	-0.04
	(7.26)	
Tertiary	-0.773**	-0.06
	(11.47)	
Part-time	-0.213**	-0.03
	(3.80)	
Unemployed previously self-employed	0.406**	0.06
	(2.85)	
Unemployed previously employee	0.190*	0.03
	(2.47)	
Unemployed never employed before	-0.049	-0.006
	(0.46)	
Inactive	-0.240**	-0.03
	(4.16)	
Chronic ill	0.459**	0.07
	(12.86)	
At least one child aged less than 5	0.042	0.005
	(0.87)	
At least one child aged less aged 6 to 14	0.139**	0.017
	(3.79)	
At least one child aged less aged 15 to 17	0.197**	0.026
	(4.62)	
South	0.206**	0.004
	(7.03)	
Constant	-1.810**	
	(10.52)	
Observations	33423	

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

Table 4b- Probit model on the difficulties in accessing medical and dental visits-treatments in Spain

	Coeff.	Marg. Effects at means
Age	0.0427**	0.0021
	(2.56)	
Age Square	-0.000491**	-0.000024
	(2.65)	
Female	-0.0135	-0.00066
	(0.27)	
Married	0.0104	0.0005
	(0.12)	
Sep. divorced	0.424**	0.0303
	(3.80)	
Widow	0.00212	0.0001
	(0.01)	
Secondary	-0.0491	-0.00232
	(0.91)	
High school	-0.373**	-0.01520
	(5.95)	
Tertiary	-0.580**	-0.0225
	(6.56)	
Part-time	0.155	0.0086
	(1.91)	
Unemployed previously self-employed	0.368	0.026
	(0.94)	
Unemployed previously employee	0.313**	0.0201
	(4.13)	
Unemployed never employed before	0.574**	0.0491
	(3.82)	
Inactive	0.149**	0.0077
	(2.46)	
Chronic ill	0.368**	0.023
	(6.84)	
At least one child aged less than 5	-0.150	-0.0063
	(1.44)	
At least one child aged less aged 6 to 14	-0.116	-0.0051
	(1.55)	
At least one child aged less aged 15 to 17	-0.277*	-0.0103
	(2.19)	
Constant	-2.762**	
	(8.47)	
Observations	28,063	

Robust z statistics in parentheses
* significant at 5%, ** significant at 1%

5. The effect of increased unemployment on poverty rates and income distribution

5.1 – Micro simulation methodologies to estimate the impact of the crisis on income distribution

We have outlined the costs of being unemployed in the previous section in terms of income poverty and in terms of a limited access to health services. EU-SILC data provide detailed individual and household socio-economic characteristics, that must be taken into account when analysing the broad impact of financial crisis. However, EU-SILC data, although collected every year, are usually released with a delay period that does not allow an early assessment of the impact of the crisis. For this purpose we had to turn to micro simulation techniques.

An important econometric tool for micro simulation modelling is represented by the calibration approach. Within this framework, researchers can use auxiliary information on the changes occurred in the population to re-weight their data[7]. Sampling weights are needed in empirical analyses for making sample data conform to the population distributions of relevant characteristics (for example age, gender, race). The calibration approach consists in computing new weights, that minimize the distance respect to the starting weights, while adjusting the sample distribution to the new unemployment rates underlying the new scenario and preserving the sample distribution respect to other key variables. However the crisis not only caused an increase in unemployment in the two countries analysed but it produced also relevant changes in its composition.

To take into account the changes occurred in the probability of unemployment experienced in the two countries we have used another micro simulation technique based on the imputation of transitions probability and simulated income.

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[7] The basic theory for calibration is provided by Deville and Särndal (1992). A complete review of the new techniques of the re-weighting approach can be found in Estevao and Särndal (2006). An application of this technique of simulation can be found in Immervoll et al. (2006).

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┌──────────────────────┐
│ Estimation of labour │
│ market transitions   │          ┌─────────────────────────────────────────┐
│ that took place from │ ───────▶ │ Transition Probabilities have been imputed to │
│ 2008 to 2009         │          └─────────────────────────────────────────┘
│ data: Labour Force   │                             │
│ Survey Data 2008-2009│                             ▼
└──────────────────────┘          ┌─────────────────────────────────────────┐
                                   │                                         │
                                   │   EU-SILC 2007                          │
                                   │   Data to simulate                      │
                                   │   2009 employment                       │
                                   │   status and the costs                  │
                                   │   of unemployment                       │
                                   │   in terms of reduced income            │
                                   │   and increase in poverty               │
                                   │                                         │
                                   └─────────────────────────────────────────┘
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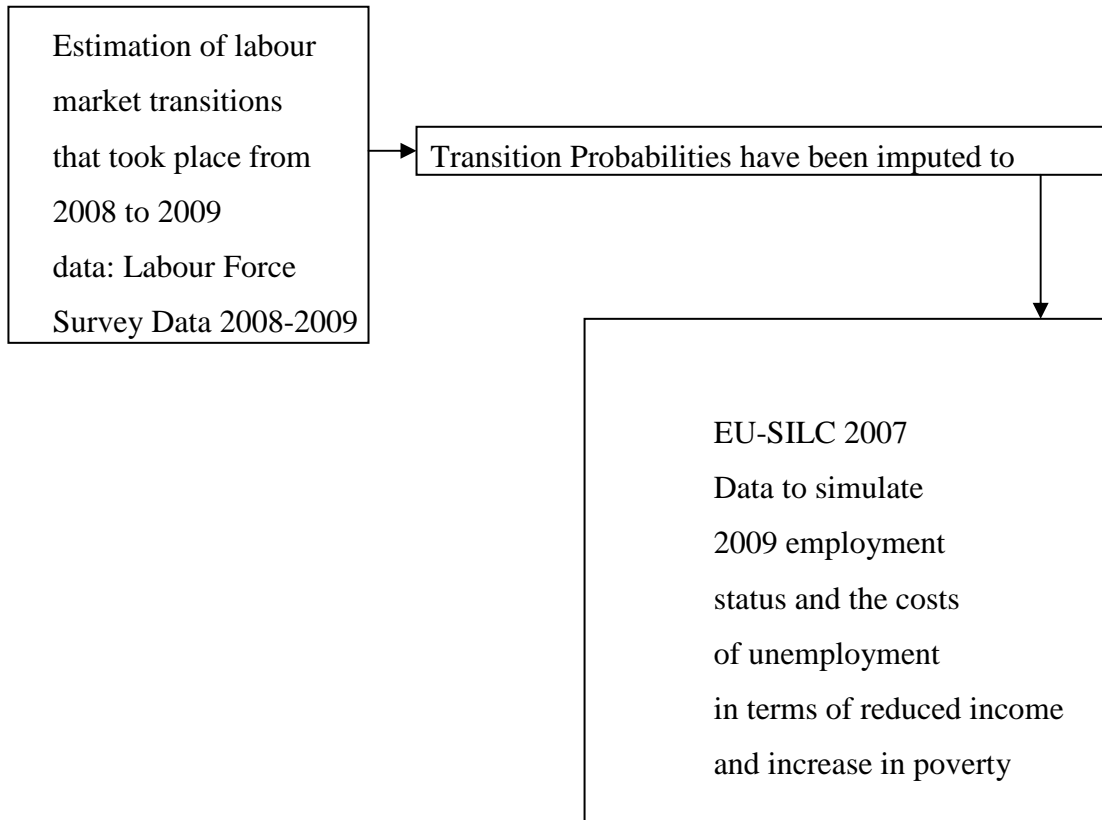
The simulation procedure that we propose here requires to follow these steps:

- o estimation of transition probabilities from 2008 to 2009 by using Labour Force Survey data and multivariate analyses. The variables included in the models estimated in this step have been limited to the ones also available in the EU-SILC data set;

- o imputation to each individual EU SILC 2007 record of the transition probabilities by using the same variables as in the transition models estimated on 2009 Labour Force survey data

- o in order to get the same proportion of individuals experiencing the transition estimated from 2008 to 2009, we have defined a dummy variable for transition i taking the value of one if the imputed probability is higher than a threshold that has been defined with reference to the observed proportion of transition i as actually occurred from 2008 to 2009 (as computed in by using Labour Force Survey 2009 data), and the data have been disaggregated by gender given the observed gender differences in the descriptive analysis on the labour market

indicators in the two countries

o those individuals who, according to the simulated 2009 employment condition, have changed their employment status, have been imputed a new income accounting for the reduction in labour income (if the individual has been simulated as becoming inactive or unemployed), the simulated unemployment benefit or wage supplementation fund benefit

o simulated equivalized household income have been reconstructed to take into account the loss in income and/or the gain connected with the members of the family's simulated employment condition

o descriptive statistics on income distribution and poverty have been produced to evaluate the costs of joblessness.

The following probabilities of flows from 2008 and 2009 and employment conditions in 2009 have been reconstructed by using the Italian and Spanish labour force surveys data:

o Flows into unemployment from employment

o Flows into unemployment from inactivity

o Flows from unemployment to employment

o Being inactive but still searching for a job or available to accept a job

o Being in a wage supplementation fund

The simulated employment transitions, and employment conditions together with the related loss/gain in income have then been imputed to IT-SILC 2007 and ES-SILC data.

In order to simulate the effect of the increased unemployment on income distribution and poverty rates, we have imputed to each record of IT SILC07 and ES SILC 07 the probability of being unemployed, having been previously employed, estimated on the 2009 third quarter of Italian and Spanish labour force surveys data (Table 5a and Table 5b respectively). To account for gender differences in the probability of becoming unemployed, the models have been estimated separately for women and men. Focusing on Table 5a, differently from men, women aged 35 to 39 are more likely to become unemployed in 2009 while this likelihood significantly decreases for both groups for workers older than 55. Higher education reduces the likelihood of becoming unemployed and the probability of becoming unemployed increases by 2%

for women and 1.2% for men if they live in the South of Italy. Turning to the impact of the type of sector, marginal effects show a 3% increase in the probability of becoming unemployed for males employed in construction sector and 2% if employed in the Real Estate sector. The probability of becoming unemployed is higher in blue-collar and unskilled work positions for men and women. As oppose to men, women in scientific and highly skilled positions show an increase by 2% of their probability of becoming unemployed.

Focusing on Table 5b, marginal effects show that the probability of becoming unemployed is higher for women aged 20 to 24 (3.7%) and 25 to 29 (3.1%). For men the group aged 25 to 29 is more likely to be unemployed with a marginal effect equal to 2.1%. In Spain, in contrast to Italy, the difference in the probability of being unemployed in the case of men and women aged 35 to 39 is small (the marginal effects are 1.5 % for women and 1.4 % for men). This result shows that it is easier and cheaper to lay off young people who have recently entered in the labour market through temporary contracts due to the remarkable duality (temporal vs. permanent contract) of the labour market in Spain. As well as in Italy, the probability of being unemployed in 2009 decreased for both groups for workers older than 55. Also in Spain, higher education reduces the likelihood of becoming unemployed for men and women. According to the type of sector, marginal effect shows a 20% increase in the probability of becoming unemployed for males employed in the construction sector, compared with the 3% in Italy, and an increase of 15% if employed in the Financial Sector[8]. This upshot can be explained by the excessive importance the construction industry had with regards to employment and by the housing bubble of the Spanish economy. For men, the probability of becoming unemployed is higher in unskilled work positions. For women, the probability of becoming unemployed is higher for craft, skilled and blue-collar and unskilled work positions. We would like to highlight the higher probability of becoming unemployed in scientific, highly skilled, and technical positions in Spain compared to Italy. This outcome could be due to the fact that labour force survey includes architects and engineers in these groups, whose activities are closely related to the construction sector which has been heavily affected by the crisis, particularly in Spain.

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[8] The Real State sector was included as part of the Financial Sector in the Spanish Labour Survey.

We compute the Hausman-White test and find statistically different effects of the crisis on men and women of the two countries.

Table 5a – Probability of becoming unemployed in 2009 III quarter

Variables	Men		Women	
	Coeff.	marg. at means	coeff.	marg. at means
15-19	-0.875**	-0.019	-0.641**	-0.008
	(6.38)		(4.59)	
20-24	0.012	0.001	0.035	0.001
	(0.17)		(0.42)	
25-29	0.049	0.002	0.062	0.002
	(0.78)		(0.88)	
30-34	0.013	0.001	0.069	0.002
	(0.21)		(1.08)	
35-39	0.079	0.004	0.185**	0.005
	(1.51)		(3.31)	
55-59	-0.149*	-0.006	-0.443**	-0.007
	(2.32)		(4.41)	
60-64	-0.458**	-0.014	-0.695**	-0.009
	(5.33)		(5.54)	
Tertiary	-0.220**	-0.008	-0.163*	-0.003
	(2.72)		(2.03)	
High school	-0.113**	-0.005	-0.175**	-0.004
	(2.69)		(3.22)	
Agriculture	-0.039	-0.002	-0.232	-0.004
	(0.42)		(1.95)	
Manufacturing	0.299**	0.016	0.232**	0.007
	(4.20)		(2.92)	
Construction	0.473**	0.031	0.203	0.006
	(6.35)		(1.06)	
Trade	0.265**	0.015	0.138	0.004
	(3.37)		(1.76)	
Hotel	0.262*	0.015	0.202*	0.006
	(2.34)		(2.33)	
Transport	0.291**	0.017	-0.072	-0.002
	(2.99)		(0.49)	
Financial	0.292*	0.017	0.136	0.004
	(2.22)		(0.85)	
Real estate	0.335**	0.020	0.052	0.001
	(3.81)		(0.61)	
Other sectors	0.223*	0.012	-0.000	0.000
	(2.26)		(0.00)	
Scientific and highly skilled positions	0.044	0.002	0.553**	0.023
	(0.38)		(4.09)	
Technical positions	0.041	0.002	0.518**	0.019
	(0.47)		(5.23)	

27

	Coeff.	Marg. at means	Coeff.	Marg. at means
White-collar	0.223*	0.012	0.642**	0.028
	(2.27)		(6.11)	
Skilled in Trade and Services	0.222*	0.012	0.771**	0.036
	(2.49)		(8.10)	
Craft. skilled blue-collar. agric.	0.317**	0.017	0.757**	0.040
	(3.97)		(6.37)	
Machine operators and semiskilled blue collar	0.175	0.009	0.699**	0.036
	(1.87)		(5.49)	
Unskilled	0.567**	0.042	0.899**	0.052
	(6.57)		(9.44)	
Army	-0.520*	-0.014		
	(2.30)			
South	0.241**	0.012	0.100*	0.002
	(6.92)		(2.40)	
Married	-0.223**	-0.010	-0.298**	-0.007
	(5.35)		(6.70)	
Self-employed collaborator	-0.260**	-0.010	-0.083	-0.002
	(5.13)		(1.21)	
Constant	-2.210**		-2.482**	
	(29.20)		(30.64)	
Observations	47359		49455	

Robust z statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Our elaborations on ISTAT Labour Force Survey Data 2009

Table 5b- Probability of becoming unemployed in 2009 III quarter

Variables	Men		Women	
	Coeff.	Marg. at means	Coeff.	Marg. at means
15-19	-0.0221	-0.0030	-0.0457	-0.0063
	(0.60)		(1.27)	
20-24	0.0992**	0.0143	0.225**	0.037
	(2.98)		(7.32)	
25-29	0.141**	0.0209	0.192**	0.031
	(4.55)		(6.75)	
30-34	0.0642*	0.0091	0.148**	0.023
	(2.25)		(5.50)	
35-39	0.104**	0.015	0.0937**	0.014
	(3.86)		(3.58)	
55-59	-0.121**	-0.015	-0.228**	-0.0284
	(3.50)		(6.91)	
60-64	-0.653**	-0.060	-0.608**	-0.0601
	(12.64)		(14.66)	
Tertiary	-0.354**	-0.0403	-0.403**	-0.04851
	(12.83)		(16.83)	
High School	-0.206**	-0.028	-0.120**	-0.0171
	(13.38)		(8.42)	
Agriculture	0.527**	0.1016	-0.157*	-0.020
	(6.20)		(2.28)	
Manufacturing	0.497**	0.0934	0.227**	0.0378
	(6.77)		(2.94)	
Construction	0.888**	0.2032	0.247	0.042
	(12.40)		(1.90)	

Trade	0.629**	0.1280	0.183**	0.030
	(8.26)		(3.52)	
Transport	0.590**	0.1185	0.279**	0.048
	(6.64)		(2.91)	
Financial	0.699**	0.1493	0.144**	0.023
	(7.90)		(2.36)	
Other services	0.228*	0.036	0.0301	0.0044
	(2.24)		(0.49)	
Scientific and highly skilled positions	1.553**	0.4611	1.529**	0.459
	(17.85)		(24.30)	
Technical positions	1.491**	0.4347	1.526**	0.456
	(18.68)		(24.71)	
White-collar	1.411**	0.4047	1.521**	0.453
	(14.36)		(24.58)	
Skilled in Trade and Services	1.229**	0.3310	1.397**	0.397
	(14.91)		(27.87)	
Craft, skilled blue-collar, agric.	1.361**	0.3857	1.680**	0.521
	(10.46)		(9.60)	
Machine operators and Semi-skilled blue-collar	1.522**	0.4272	1.387**	0.401
	(22.01)		(17.27)	
Unskilled	1.545**	0.4472	1.498**	0.436
	(22.64)		(29.83)	
Married	-0.323**	-0.0451	-0.131**	-0.019
	(15.48)		(6.98)	
Constant	-1.384**		-1.385**	
	(62.46)		(66.12)	
Observations	56,313		57,568	
Robust standard errors in parentheses				
* significant at 5%, ** significant at 1%				

Source: Our elaborations on EAP Survey Data 2009

Taking into account the higher probability of being under wage supplementation fund during the current crisis (as outlined in Section 1) the same set of micro data has been used in order to estimate the probability of being employed but under the wage supplementation scheme.[9] This is a condition that is not considered as unemployment in labour force surveys but that is found to reduce current income and induce uncertainty on forward labour market condition. The probability of being under wage supplementation funds (Table 6) does not increase in the South, and it is significantly higher for men in different employment sectors. Indeed, being employed in manufacturing increases the probability to be under the wage supplementation funds by 7% for men and 3% for women.

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[9] This can be done for the Italian data base consistently also with the increasing share during the crisis of wage supplementation funds beneficiaries experienced by Italian workers.

Table 6 – Probability of being in the wage supplementation funds scheme

	Men		Women	
	coeff	Marginal eff. at means	coeff	Marginal eff. at means
15-19	-0.605	-0.002		
	(1.59)			
20-24	-0.194	-0.001	-0.332	0.000
	(1.51)		(1.32)	
25-29	-0.351**	-0.001	-0.432**	0.000
	(3.23)		(2.82)	
30-34	0.003	0.000	-0.099	0.000
	(0.03)		(0.99)	
35-39	0.044	0.000	-0.229*	0.000
	(0.61)		(2.06)	
55-59	-0.055	0.000	-0.198	0.000
	(0.65)		(1.62)	
60-64	-0.450**	-0.001	-1.052**	-0.001
	(3.03)		(3.07)	
Tertiary	0.042	0.000	-0.024	0.000
	(0.29)		(0.13)	
High school	0.042	0.000	0.090	0.000
	(0.76)		(1.01)	
Energy Industry and Extraction	0.638	0.008	0.410	0.001
	(1.88)		(1.22)	
Manufacturing	1.939**	0.069	1.554**	0.027
	(7.35)		(6.55)	
Construction	1.182**	0.027		
	(4.27)			
Trade	1.420**	0.046	1.025**	0.008
	(5.25)		(3.68)	
Hotel	0.149	0.001	0.274	0.001
	(0.39)		(0.78)	
Transport	0.924**	0.016	1.060**	0.011
	(3.22)		(3.80)	
Real estate	1.094**	0.026	0.819**	0.005
	(3.82)		(3.13)	
Other sectors	0.625	0.008	0.329	0.001
	(1.77)		(0.96)	
Scientific and highly skilled positions	0.093	0.001	0.213	0.000
	(0.30)		(0.49)	
Technician positions	0.452	0.004	0.239	0.001
	(1.62)		(0.70)	
White collar	0.536	0.005	0.266	0.001
	(1.81)		(0.76)	
Skilled in Trade and Services	0.427	0.004	0.098	0.000
	(1.42)		(0.25)	
Craft, skilled blue-collar	0.565*	0.005	0.569	0.002
	(2.00)		(1.60)	
Machine operators and semiskilled	0.807**	0.011	0.723*	0.004

	(2.84)		(2.02)	
Unskilled	0.514	0.005	0.359	0.001
	(1.70)		(0.99)	
South	0.018	0.000	-0.009	0.000
	(0.31)		(0.11)	
Married	0.048	0.000	0.047	0.000
	(0.76)		(0.61)	
Constant	-4.129**		-3.658**	
	(11.61)		(17.70)	
Observations	35514		39447	

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

Source: Our elaborations on ISTAT Labour Force Survey Data 2009

Italy is characterized by a higher incidence of inactivity amongst the working age (especially women) population. In order to account for the loss in income connected with being inactive, but still searching for a job or available to accept a job, we have estimated the probability of being in this condition by gender by using ISTAT LFS 2009 data and imputed this probability to IT SILC 2007 micro data. Apart from very young and older women, the probability of being inactive increased in 2009, decreasing for more educated people (this probability decreases by 4% for women having completed tertiary education and by 2.4% for men with tertiary education) and significantly increases for those living in the South of Italy (by 8% for men and 10% for women). The probability of being inactive is also higher (it increases by 2%) for mothers of children aged from 6 to 14 when the presence of school opened on a full-time schedule is rationed and mothers' unpaid working hours devoted to childcare are higher.

We do the same for Spain (see Table 7b). Using the Spanish Labour Survey we estimated the probability of being inactive but searching for a job, or being available for work in 2009, and imputed this probability to ES SILC 2007 micro data. For Spanish data the probability of being inactive decreased for more educated people, by 1.7% for women who completed tertiary education, and by 1.2% for men. These probabilities are smaller than in Italy. The probability of being inactive increased for men and women aged to 55 to 59.

The Hausman-White test suggests that the response of the two countries to the crisis with respect to the probability of becoming inactive significantly differs, for both men and women.

Table 7a – Probability of being inactive but searching for a job or being available to Work in 2009

	Men		Women	
	coeff.	Marginal eff. at means	coeff.	Marginal eff. at means
15-19	0.190**	0.021	-0.149**	-0.020
	(4.23)		(3.26)	
20-24	0.602**	0.086	0.307**	0.054
	(14.17)		(7.77)	
25-29	0.465**	0.060	0.335**	0.060
	(10.52)		(8.63)	
30-34	0.268**	0.030	0.234**	0.039
	(6.08)		(6.47)	
35-39	0.016	0.002	0.178**	0.029
	(0.34)		(5.04)	
55-59	-0.072	-0.006	-0.377**	-0.045
	(1.48)		(8.25)	
60-64	-0.101	-0.009	-0.649**	-0.066
	(1.91)		(12.33)	
Tertiary	-0.312**	-0.024	-0.359**	-0.044
	(6.64)		(9.93)	
High school	-0.279**	-0.025	-0.222**	-0.032
	(9.89)		(8.83)	
South	0.675**	0.077	0.598**	0.101
	(27.04)		(27.83)	
At least one child 0-3	-0.039	-0.004	-0.054	-0.008
	(0.91)		(1.49)	
At least one child 3-5	0.010	0.001	-0.026	-0.004
	(0.24)		(0.75)	
At least one child 6-14	-0.050	-0.005	0.139**	0.022
	(1.61)		(5.45)	
Constant	-1.891**		-1.499**	
	(58.45)		(58.04)	
Observations	47359		49480	

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

Source: Our elaborations on ISTAT Labour Force Survey Data 2009

Table 7b- Probability of being inactive but searching for a job or being available to work in 2009

	Men Coeff.	Marg. eff. at means	Women Coeff.	Marg.eff. at means
15-19	0.148**	0.006	-0.223**	-0.011
	(3.06)		(4.80)	
20-24	0.0438	0.0016	-0.215**	-0.011
	(0.82)		(4.61)	
25-29	-0.0195	-0.001	-0.267**	-0.013
	(0.36)		(5.71)	
30-34	-0.0722	-0.002	-0.193**	-0.011
	(1.24)		(4.48)	
35-39	-0.118*	-0.004	-0.136**	-0.08
	(2.08)		(3.57)	
55-59	0.171**	0.007	0.0787*	0.005
	(3.69)		(2.26)	
60-64	0.165**	0.006	-0.0213	-0.001
	(3.47)		(0.58)	
Tertiary	-0.453**	-0.012	-0.332**	-0.017
	(8.65)		(10.12)	
High School	-0.138**	-0.005	-0.129**	-0.008
	(5.19)		(6.17)	
At least one child 0-3	-0.0581	-0.002	-0.104**	-0.006
	(1.16)		(2.53)	
At least one child 3-5	-0.0259	-0.0009	-0.0469	-0.003
	(0.54)		(1.33)	
At least one child 6-14	-0.0733	-0.002	0.0209	0.0013
	(1.81)		(0.72)	
Constant	-2.082**		-1.694**	
	(71.55)		(80.67)	
Observations	56,313		57,568	

Robust z in parentheses
* significant at 5%, ** significant at 1%

Source: Our elaborations on EAP Survey Data 2009

In order to account for the increase in unemployment rates in entry or re-entry in the labour market, we have estimated the probability of becoming unemployed having been inactive (Table 8a). This probability is higher for individuals younger than 34 (for men) and 39 (for women) with an increase by 4% for men and women aged 20 to 24. Having a child in primary school increases the probability of becoming unemployed by 0.8%, if previously inactive in 2009 in the case of mothers, while living in the South of Italy increases the probability of being unemployed for previously inactive by 1% for men and 0.8% for women.

Table 8a – Probability of becoming unemployed if inactive in Italy

	Men		Women	
	Coeff .	Marginal eff. at means	Coeff .	Marginal eff. at means
15-19	0.298**	0.013	0.122	0.006
	(4.05)		(1.79)	
20-24	0.667**	0.041	0.541**	0.039
	(10.46)		(8.67)	
25-29	0.482**	0.025	0.508**	0.035
	(7.20)		(9.10)	
30-34	0.200**	0.008	0.365**	0.022
	(3.07)		(6.34)	
35-39	0.022	0.001	0.233**	0.012
	(0.30)		(4.00)	
55-59	-0.098	-0.003	-0.499**	-0.015
	(0.99)		(5.00)	
60-64	-0.168	-0.005	-0.930**	-0.021
	(1.53)		(6.70)	
Tertiary	0.045	0.002	0.068	0.003
	(0.74)		(1.32)	
High school	-0.066	-0.002	-0.053	-0.002
	(1.61)		(1.30)	
South	0.371**	0.014	0.169**	0.008
	(10.17)		(5.13)	
Married				
	-0.408**	-0.014	-0.145**	-0.007
	(7.77)		(3.30)	
At least one child 0-3	-0.054	-0.002	-0.095	-0.004
	(0.92)		(1.69)	
At least one child 3-5	0.039	0.001	-0.018	-0.001
	(0.64)		(0.34)	
At least one child 6-14	0.070	0.002	0.156**	0.008
	(1.39)		(3.87)	
Constant	-2.266**		-2.118**	
	(36.07)		(40.81)	
Observations	47359		49480	

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

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Table 8-b Probability of becoming unemployed if inactive in Spain

	Men Coeff	Marginal eff. at means	Women Coeff.	Marginal eff. at means
15-19	-0.141**	-0.0006	0.305**	0.008
	(2.93)		(6.82)	
20-24	-0.379**	-0.001	-0.126*	-0.002
	(6.50)		(2.31)	
25-29	-0.854**	-0.002	-0.363**	-0.005
	(8.21)		(5.47)	
30-34	-0.906**	-0.002	-0.632**	-0.007
	(7.37)		(7.44)	
35-39	-1.058**	-0.002	-0.551**	-0.006
	(6.61)		(7.4)	
55-59	-1.059**	-0.002	-0.500**	-0.006
	(4.79)		(5.75)	
60-64			-0.787**	-0.007
			(6.57)	
Tertiary	0.0994	0.0004	-0.0896*	-0.002
	(1.71)		(2.26)	
High school	-0.0467	-0.0002	-0.144**	-0.003
	(1.36)		(4.66)	
Married	-1.390**	-0.011	-0.468**	-0.01
	(12.87)		(12.75)	
At least one child 0-3	0.123	-0.0006	0.119*	0.002
	(1.54)		(2.28)	
At least one child 3-5	0.224**	0.001	0.239**	0.006
	(3.33)		(5.01)	
At least one child 6-14	0.220**	0.001	0.155**	0.003
	(4.62)		(3.97)	
Constant	-1.865**		-1.930**	
	(53.29)		(56.27)	
Observations	51,308		57,568	

Robust z in parentheses

* significant at 5%, ** significant at 1%

Table 8b shows that the probability of becoming unemployed having been inactive is higher for women younger than 19 in Spain. Young women having a child aged 3 to 5 and in primary age school increased the probability of becoming unemployed by 0.6% and 0.3% respectively, if previously inactive in 2009. These quantities are equal to 0.1% for men. The p-value associated with the Hausman-White test allows us to reject the null hypothesis that the coefficients of the models for Italy are equal to the coefficients of the models for Spain.

We have then estimated the probability of becoming employed in year 2009 having been unemployed one year before (Table 9). The probability of entering employment is significantly higher for higher educated in Spain than in Italy, where only women in tertiary education experience an increase in the probability of entering employment after

a spell of unemployment. The youngest and eldest age groups show a reduction in the probability of experiencing a flow into employment in Italy. While in Italy being married does not increase the probability of becoming employed, in Spain this positively affects the flow into employment. The result of the Hausman-White test suggests different response models for Italy and Spain.

To those who are simulated to be employed having been unemployed we have then imputed a labour income estimated by a Heckman two step selection model for women and OLS for men.

Table 9a- Probability of becoming employed in 2009 if unemployed in 2008. Italy

	Men		Women	
	Coeff.	Marginal eff. at means	Coeff.	Marginal eff. at means
15-19	-0.059	-0.0023	-0.494***	-0.0094
	(0.64)		(3.96)	
20-24	0.551***	0.0369	0.414***	0.0185
	(8.47)		(6.21)	
25-29	0.429***	0.0256	0.502***	0.0242
	(6.73)		(8.56)	
30-34	0.312***	0.0166	0.326***	0.0131
	(5.34)		(5.67)	
35-39	0.198***	0.0095	0.252***	0.0094
	(3.19)		(4.43)	
55-59	-0.356***	-0.0108	-0.542***	-0.0102
	(4.19)		(5.54)	
60-64	-0.594***	-0.0149	-1.182***	-0.0147
	(5.49)		(6.47)	
Tertiary	-0.181***	-0.0064	0.087*	0.0028
	(2.98)		(1.67)	
High school	-0.149***	-0.0059	-0.074*	-0.0022
	(3.66)		(1.67)	
South	0.343***	0.0158	0.080**	0.0024
	(9.44)		(2.13)	
Married	-0.057	-0.0023	-0.157***	-0.0048
	(1.27)		(3.67)	
Constant	-2.197***		-2.143***	
	(41.10)		(40.11)	
Observations	47,359		49,480	

Robust z statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Our elaborations on IT SILC 2007

Table 9b- Probability of becoming employed in 2009 if unemployed in 2008. Spain

	Men		Women	
	Coeff.	Marginal eff. at means	Coeff.	Marginal eff. at means
15-19	-0.192**	-0.0360	-0.312**	-0.0039
	(5.15)		(6.88)	
20-24	0.313**	0.0755	0.202**	0.0354
	(12.17)		(7.45)	
25-29	0.514**	0.1345	0.374**	0.0719
	(22.50)		(15.78)	
30-34	0.542**	0.1427	0.407**	0.0793
	(26.63)		(18.74)	
35-39	0.485**	0.1249	0.382**	0.0732
	(24.85)		(18.18)	
55-59	0.366**	0.0902	0.273**	0.0495
	(17.27)		(11.49)	
60-64	0.0936**	0.0204	-0.0284	-0.0043
	(3.95)		(1.02)	
Tertiary	0.425**	0.1050	0.735**	0.1590
	(26.48)		(46.23)	
High school	0.258**	0.0537	0.373**	0.0577
	(26.19)		(46.21)	
Married	0.419**	0.0874	0.250**	0.0392
	(32.87)		(36.01)	
Constant	-1.615**		-1.780**	
	(146.75)		(168.64)	
Observations	84,971		90,364	

Robust z statistics in parentheses
* significant at 5%, ** significant at 1%

Source: Our elaborations on ES SILC 2007

The wage supplementation fund subsidy has been imputed as to up of 80% of the former employment income, according to a threshold fixed by the National Social Security Italian Institute to those who have been simulated to be under the scheme.

We have then imputed to those who were not unemployed according to IT SILC and ES SILC 2007 survey but, according to the simulation would have been unemployed in year 2009, an unemployment benefit obtained by the estimation of a two step Heckman model on IT SILC07 data (Table 10a)[10]. Unemployment benefits tend to increase with age of the unemployed (though with a 10% level of significance) in line with a likely higher level of wages connected to seniority in employment. Unemployment benefits (according to the multivariate analysis) tend to be lower for

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[10] We have included perceived health status and family composition in terms of presence and age of children in the first step of the estimation given the expected higher effect of these variables on unemployment probability than on the level of unemployment benefit as an indentifying assumption.

men, this can be connected to the inclusion in the second step of the model of women who are more likely to be covered by unemployment benefits. However one should notice that women have a higher likelihood of losing their jobs and becoming inactive and therefore they are left without any unemployment benefit.

Table 10a– Net unemployment benefit – Heckman two step estimation

	Un.Benefit	Unemployed
Age	0.198	-0.080**
	(1.75)	(15.67)
Age squared	-0.002	0.001**
	(1.52)	(8.98)
South	-0.008	0.093
	(0.04)	(1.91)
Man	-0.362*	0.001
	(2.00)	(0.02)
Married	0.336	0.094
	(1.52)	(1.01)
Separated or divorced	0.029	0.109
	(0.08)	(1.03)
Widow	0.423	-0.392
	(0.41)	(1.92)
Secondary	0.435	-0.338**
	(0.84)	(5.04)
High School	0.441	-0.481**
	(0.66)	(6.43)
Tertiary	-0.148	-0.591**
	(0.18)	(5.92)
Chronic ill		0.186
		(1.82)
Presence of children aged 0-5		-0.051
		(0.48)
Presence of children aged 6-14		-0.005
		(0.09)
Presence of children aged 15-17		-0.293**
		(2.96)
Constant	3.580**	
	(2.64)	
Observations	33423	33423

Robust z statistics in parentheses

* significant at 5%; ** significant at 1%

Source: Our elaborations on IT SILC 2007

Table 10b shows that in the Spanish case, unemployment benefit tends to increase with the age of unemployed and the level of education. For men the unemployment benefit

increases significantly compared to women, while the reverse is true in Italy. This result is consistent with the existing gender gap in wages in the Spanish labour market (see for instance www.oecd.org/els/social/family/database).

Table 10b-Net unemployment benefit-Heckman two step estimation

	Un. Benefit	Unemployed
Age	0.114**	-0.0754**
	(4.63)	(17.90)
Age square	-0.00113**	0.000853**
	(4.06)	(13.58)
Man	0.285**	-0.231**
	(3.35)	(5.81)
Married	0.0562	0.0764
	(0.54)	(1.15)
Separated or divorced	-0.0239	0.233**
	(0.15)	(2.40)
Widow	0.232	-0.379*
	(0.88)	(2.09)
Secondary	0.311**	-0.237**
	(3.05)	(3.95)
High School	0.508**	-0.450**
	(3.62)	(7.5)
Tertiary	0.919**	-0.541**
	(7.50)	(8.05)
Chronic ill		-0.141**
		(3.56)
Presence of children aged 0-5		0.196**
		(2.92)
Presence of children aged 6-14		-0.0818
		(1.50)
Presence of children aged 15-17		-0.701**
		(4.58)
Constant	7.747**	
	(17.03)	
Observations	26,472	26,472

Robust z statistics in parentheses
* significant at 5%, ** significant at 1%

Source: Our elaborations on ES SILC 2007

5.2 – The impact of the crisis on income distribution and poverty rates

Having obtained micro simulated data that account for the effect of joblessness on individual and family income, we can then proceed in analysing the effect of the crisis on income and poverty rates.[11]

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[11] t-tests performed on the descriptive statistics presented in this Section confirm statistic significance of the obtained differences.

At national level, the first moment of the Italian income distribution referred to the whole population shows a reduction in equivalised household income by 1.16% (Table 11a).

Table 11a - Descriptive statistics on actual and simulated equivalised disposable household income in 2009

Variables	Mean	Std. Dev.
simulated equivalized household income (whole sample)	17271.97	12117,65
	-1.16%	
actual equivalized household income (whole sample)	17472.92	12080.54

Source: Our elaborations on IT SILC07 and simulated microdata

The first moment of the Spanish income distribution related to the whole population (Table 11b) shows a diminishing in equivalised household income by 3% in the micro simulated income. This drop in household income is explained by a sharp increase in the unemployment rate that rose from 8.3% in 2007 to 18% in the third quarter of 2009. In addition, the functioning of the whole unemployment protection system results in some individuals receiving a smaller benefit than the inter professional minimum wage, which implies a substantial reduction of their income. To go deeper into this result let us focus on Table 11c which displays the number of employed by professional situation. Observe that the number of self-employed workers and private sector employees diminished from 2007 to 2009. Moreover, those unemployed who were formerly self-employed are not covered by the unemployment protection system. Furthermore, the application of the minimum and maximum limits of the unemployment contributory benefit reduces the individual's income. For instance, the maximum gross unemployment benefit that an individual with two or more children can receive is 1383.99 euro per month. For a single individual this amount is 1076.44 euro per month. At this point we would like to remark that a government bill approved on May 13, 2010 will include also self-employed into the unemployment protection system.

Table 11 b- Descriptive statistics on actual and simulated equivalised disposable household income in 2009

Variables	Mean	Std. Dev.
simulated equivalized household income (whole sample)	-13232.18	-8568.62
	-3.15%	
actual equivalized household income (whole sample)	13663.18	8497.09

Source: Our elaborations on ES SILC07 and simulated microdata

Table 11-c Employed by professional situation in Spain (unit: thousand of persons)

	2009	2007
Total	18888	20356
Self-employed worker	3196.7	3586.7
Employees (total)	15680.7	16760
Public sector employees	3062	2913
Private sectors employees	12618.6	13847
Another professional situation	10.6	9.3

Source: EAP Survey

Equivalised household income inequality as measured by the Gini Index (Table 12a) shows higher inequality in income distribution in the South of Italy and an increase by 1% points if one uses the simulated equivalised household gross income in the North and in the South of Italy.

Table 12a - Gini Index actual and simulated equivalised household
Income - Italy

Area	Obs.	Simulated	Simulated-actual	Actual
North	19993	0.30	0.01	0.29
Centre	10585	0.31	0.00	0.31
South	13751	0.33	0.01	0.32
Total	44329	0.32	0.01	0.31

Table 12b shows the Gini indices for equivalised household income and for micro simulated income. The Gini index is higher for the latter increasing inequality by 1% points. It is observed that the effect of the crisis on inequality has been similar in both countries despite the fact income diminishing being higher in Spain. In such a way this result shows that the Spanish unemployment protection system is more generous

than the Italian one if we attend to the net replacement rate (OECD, 2009a, Table 1.6, p. 76).

Table 12b. Gini Index actual and simulated equivalised household- Spain

Simulated	Gini Index simulated-actual	Actual
0.32	0.01	0.31

Source: Our elaborations on ES SILC07 and simulated microdata

We have then estimated the poverty rates by using simulated equivalised household income as compared to the actual one (Tables 13, 14, 15, 16, 17 and 18).

Poverty rates computed by using simulated household gross equivalised income increase by 1% on the whole in Italy. However, turning to differences in poverty distribution by area, the simulated effect of unemployment increase on poverty rates brings about an increase in the poverty rate by 3% in the South of Italy (Table 13). The latter can, in our opinion, occur since there is a higher probability that the unemployed in the South were formerly inactive, youth or in jobs uncovered by unemployment benefits.

Table 13 - Poverty rates in Italy by area (simulated and actual equivalised income)

Area	Obs.	simulated eq. income			actual eq.income	
		Mean	St.Dev.	Diff.	Mean	Std.Dev.
North	20324	0.12	0.32	1%	0.11	0.31
Centre	10727	0.14	0.35	1%	0.13	0.34
South	14088	0.35	0.48	3%	0.33	0.47
Total	45139	0.20	0.40	1%	0.19	0.39

Poverty rates are significantly higher in households with children aged less than 15 on the whole in Italy, apart from the Centre of Italy (where the change in poverty rates is similar for households with and without children aged less than 15) in the other areas poverty rates increase by 1% in households with children aged less than 15 (Table 14 and 15).

Table 14 - Poverty rates in Italy by area, households without children aged less than 15 (simulated and actual equivalised income)

Area	Obs.	simulated eq. income			actual eq.income	
		Mean	St.Dev.	Diff.	Mean	Std.Dev.
North	15973	0.11	0.32	0%	0.11	0.31
Centre	8468	0.13	0.33	1%	0.12	0.33
South	10662	0.32	0.47	2%	0.31	0.46
Total	35103	0.19	0.39	1%	0.18	0.38

Table 15 - Poverty rates in Italy by area, households with children aged less than 15 (simulated and actual equivalised income)

Area	Obs.	simulated eq. income			actual eq.income	
		Mean	St.Dev.	Diff.	Mean	Std.Dev.
North	4351	0.13	0.33	2%	0.11	0.31
Centre	2259	0.19	0.39	1%	0.18	0.38
South	3426	0.43	0.49	3%	0.40	0.49
Total	10036	0.25	0.44	2%	0.23	0.42

Table 16 shows the poverty rates for household equivalised income and micro simulated income. In Spain the simulated effect of unemployment increases the poverty rate by 1% point. This result is in line with the latest publications of the Spanish National Statistic Institute that put the Headcount rate at 19.5% according to EU SICL-2009 (www.ine.es/prensa/prensa.htm).

Table 16- Poverty rates in Spain (simulated and actual equivalised income)

Poverty Rates				
simulated eq. income			actual eq.income	
Mean	St.Dev.	Diff.	Mean	Std.Dev.
0.20	0.40	1%	0.19	0.39

Source: Our elaborations on ES SILC07 and simulated microdata

Table 17- Poverty rates in Spain, households without children aged less than 15 (simulated and actual equivalised income)

Poverty Rates household without children aged less than 15				
simulated eq. income			actual eq.income	
Mean	St.Dev.	Diff.	Mean	Std.Dev.
0.20	0.0.40	1%	0.19	0.39

Source: Our elaborations on ES SILC07 and simulated microdata

Table 18- Poverty rates in Spain, households with children aged less than 15 (simulated and actual equivalised income)

Poverty Rates household with children aged less than 15				
simulated eq. income			actual eq.income	
Mean	St.Dev.	Diff.	Mean	Std.Dev.
0.22	0.42	0%	0.22	0.42

Source: Our elaborations on ES SILC07 and simulated microdata

In Spain, poverty rates are higher in households with children aged less than 15. This occurs with actual and simulated equivalised income, though the difference between actual and imputed poverty rates is higher amongst households without children aged less than 15. Moreover the difference in the poverty rates between the two types of households is wider for the Italian sample.

Conclusions

As an outcome of the current crisis, the Italian and the Spanish labour markets have experienced an increase in unemployment rates. Although the impact of the recession has been more severe in Spain, the Italian data must be complemented with data on the beneficiaries of Wage Supplementation Fund beneficiaries (who are not computed amongst the unemployed) to assess more completely the effect of the crisis on the labour market.

A wide share of the population in Italy (particularly in the South of Italy and particularly amongst women) are inactive and has been discouraged from undertaking job search actions. This calls for statistical and econometric techniques able to account for their presence (Brandolini, Cipollone and Viviano, 2006; Jones and Riddel, 2006) and for a specific target in the employment and social policies to avoid their exclusion from the labour force.

The financial crisis has inflicted extreme hardship in the Spanish labour market, especially in the last quarter of 2008 and the first of 2009. As a result of the heavy job losses suffered, especially by men, the Spanish labour force rate has fallen slightly, and

the rate of youth unemployment was 39.1% at the end of 2009. This rate for non-EU residents at that time was of 31.0%.

Our results on the socioeconomic costs of unemployment indicate that the unemployed experience a higher degree of income poverty and costs in terms of a reduced probability of accessing medical or dental treatments in both countries. The costs change also according to employment status prior to unemployment. So, during the crisis, regional governments in Italy introduced temporary prescription charges for visits to medical specialists and exams exemptions for the unemployed or redundancy wage supplementation fund recipients and their families. This underscores the need to improve access to health services for the unemployed and comports with our results from multivariate analysis.

On the other hand, our evidence based on micro simulation indicates a reduction of the equivalised household income, more accentuated in Spain and in the South of Italy and an increase in poverty associated with the increase in unemployment, inactivity and wage supplementation funds workers in 2009. The impact on poverty rates is higher in the South of Italy, as shown by using imputed unemployment probability micro simulation.

The economic literature has widely examined the link between unemployment, income inequality, poverty and well-being. Interest in this subject increases when faced with economic recessions owing to the negative effects they have on labour markets.

The current crisis has significantly increased unemployment rates with differential effects on living standards. Focusing on the Italian and Spanish labour markets, our micro simulation analysis on its impact on household income shows a reduction of the equivalised household income, more accentuated in Spain and in the South of Italy, which leads to a worsening in inequality and poverty in both countries. Nevertheless, it should be highlighted that the relatively low decrease in income experienced in Italy can be connected to the effect of the provision of the wage supplementation fund, however the duration of this provision is bound to expire leading, in the absence of reintegration in one's job position, to loss in income and increase in poverty if other forms of safety net are not established.

To understand these findings one must bear in mind several explanatory factors. Firstly, gender, age, nationality, region of residence, job quality, qualification, activity sector

and occupation status put the person in different positions in the Spanish and Italian labour markets and, therefore, have a bearing on the probability of job loss in an economic crisis. Secondly, the differential characteristic of the Spanish labour market is its strong capacity of employment destruction in crisis periods. Thirdly, the unemployment insurance system in Italy is characterized by inequalities derived from differences in the eligibility conditions and in the different duration and degree of coverage according to the type of contract. On the other hand, the coverage of unemployment contributory benefit in Spain varies depending on the contribution made to the system – work days accumulated - and on the prior employment status of the unemployed. The Spanish subsidies are linked to possession of income no higher than 75 percent of the monthly minimum wage and provide no more that 80 percent of PIMEI. Finally, the Spanish unemployment protection is more generous than the Italian one if we measure it by the OECD data. The net replacement rate during the first year of unemployment in 2007 was 69 percent with a five-year average of 39 percent in Spain compared to 37 percent in Italy with a five- year average of 7 percent.

These results call for a reform of the Italian and Spanish unemployment protection systems, since they are characterized by a rather low coverage and deliver neither efficiency nor equity. They neither generate relatively high employment rates nor keep the risk of poverty relatively low compared to other European systems. The extension of the Wage Supplementation Fund access in Italy and the introduction of the Program for Temporary Unemployment Protection and Integration in Spain, which were taken as reaction to the crisis, prove this.

The choice of the exact measures to adopt will require further analysis and simulations to identify the ones most suited to the characteristics of the two countries and this will be the object of future works.

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