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UNEMPLOYMENT OUTFLOWS:
THE RELEVANCE OF GENDER, MARITAL STATUS
AND GEOGRAPHICAL LOCATION
ACROSS THREE EUROPEAN COUNTRIES

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Unemployment outflows: the relevance of gender, marital status and geographical location across three European countries.

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Abstract

The aim of this paper is twofold. First, we investigate the determinants of unemployment outflows in three European labour markets: France, Italy, and Spain. Second, we try to examine discrepancies and similarities between specific outflow determinants, such as the interactions between gender and marital status and the geographical macro region of residence, by comparing results obtained across countries. We find that the nations analysed, at least as far as our analysis is concerned, show remarkable discrepancies, especially in terms of the relevance of gender and marital status in determining these outflows. Striking differences also emerge for the role of the geographic area of residence.

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1 Introduction

This paper studies unemployment outflows using European Union Statistics on Income and Living Conditions (EU-SILC) panel data from three countries: France, Italy, and Spain. The purpose is twofold: first, we aim to perform the analysis of the determinants of these flows in countries; second, we try to offer some clues for the interpretation of the differences and similarities of determinants and probabilities of transition across countries.

Investigating the determinants of unemployment outflows is relevant for several reasons, including the development of policies aimed at preventing occupational segregation and discrimination by gender and aimed at fostering social and regional cohesion.

For these reasons, we will focus mainly on gender and marital status gaps and regional disparities. Control variables such as age, education, previous state in the labour market, family context, and social transfers will be considered.

The literature on unemployment outflow patterns in OECD countries has highlighted significant gender differences, and relevant discrepancies are also reported in the case of marital status; married women, on average, show less labour force attachment (Booth et al. (2003)) compared to unmarried women and significantly more attachment than men (both married and unmarried). Females also exhibit less commitment to labour market activity and are relatively less mobile than men (Booth (2009) and Theodossiou (2002)). Gender-related differences in labour market behaviour refer both to societal constraints and, in some countries such as Italy, to the relatively underdeveloped system of work/family reconciliation policies (OECD (2001), Del Boca (2002); Del Boca et al. (2005); Del Boca and Pasqua (2005)).

The geographical differentials in unemployment outflows are quite debated for Italy (e.g. Bertola and Garibaldi (2002), Paggiaro (1999), and Ricciardi (1991)) and we aim to verify whether geographical differentials also represent an important dimension of heterogeneity in the other countries analysed.

It is our aim to investigate how different the labour markets of France, Italy, and Spain are with respect to gender, marital status and geographical area of residence.

These three countries are among the largest economies, show cultural similarities, have experienced high unemployment rates in recent years with marked long-term unemployment, and are characterised by very tight labour market legislation with attempts to introduce flexibility. [1]

Other possible candidates for interesting comparisons (e.g., Germany, the UK) are not considered because EU-SILC data for these countries were not available at the time this paper was written. Smaller countries are characterised by smaller EU-SILC samples and are thus not suitable for sound statistical comparisons.

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[1]More precisely, this is true for Italy and Spain, whereas France seems to be moving in the opposite direction.

This study uses the panel section of the EU-SILC data on the three mentioned European countries for the years 2004-2005. The EU-SILC is a European survey conducted with consistent methodology across most EU member states.

In the literature, there is a lack of studies based on these data on these labour market flows (other works, such as van Ours (1990), Burgess (1994), and Theodossiou and Zangelidis (2009), make reference to the ECHP panel survey that took place in the 90s).

The EU-SILC questionnaire covers several topics: aside from unemployment or job and labour market-related history, a large section of the questionnaire is devoted to income and living conditions. This allows us to include outflows from unemployment social and economic variables in this study, such as the income of other household components, social transfers, and other unemployment benefits. In any case, we note that one's status in the labour market is measured through a single question, so its determination is not as precise as it is in the National Labour Force Surveys, which are conducted in compliance with International Labour Organisation standards.

The class of models we consider in this paper are multinomial logistic regression models (Gourieroux (2000), Fabrizi and Mussida (2009), and Theodossiou and Zangelidis (2009)).

Our main findings are that the impact of gender and marital status are dramatically different in the three countries as a possible effect of different legislation, cultural and societal norms, the efficacy of economic policies aimed at reducing occupational segregation and the fostering of reconciliation between one's work and one's family. Regional disparities are important to different degrees in the three countries, with, as expected, Italy characterised by the lowest regional cohesion. Nonetheless, some clues are common for interpreting data: the effects of discouragement appear to be lower in regions affected by high unemployment rates.

The structure of the paper is as follows. The second section explains the methodological framework of the analysis. Section 3 describes the data set employed and average labour market statistics for the three European countries. Estimates of interpretations of both the transitions and the joint significance of variables of interest to evaluate the plausibility of some relevant assumptions are offered in Section 4. Section 5 concludes.

2   Methodology

We estimate the determinants of unemployment outflows at the individual level using multinomial logit regression models (MNL). A concise description of these models and our estimation strategy follow. Let $h = 1, \ldots, n$ be the indexes for the h-th individual in the sample; let us define the conditional individual transition probabilities as

$$p_{i,h} = Pr(X_{t+1,h} = i | X_{t,h} = 0) \tag{1}$$

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where $X_{t,h}$ is the random variable describing the state of individual h at time t that can take the values $l = 0, 1, 2$ with 0 labelling unemployment, 1 labelling employment and 2 labelling the non-labour force; $\mathbf{z}_h$ is a vector including individual-level covariates defined for time t-1. The model for the transition probabilities can be written as follows:

$$p_{i,h} = \frac{\exp\{\mathbf{z}_h^t \boldsymbol{\beta}_l\}}{1 + \sum_{l=1}^{2} \exp\{\mathbf{z}_h^t \boldsymbol{\beta}\}} \tag{2}$$

with $l = 1, 2$. We thus assume permanence in the initial state as the baseline category. Model parameters are estimated using Maximum Likelihood. A detailed technical description of the Maximum Likelihood Method in this context can be found in Gourieroux (2000, chap. 5), and Cameron and Trivedi (2005, chap. 15).

In our econometric analysis, the design-based longitudinal weights will not be considered. In principle, they might be included by adopting an approach to multinomial models in which the contributions of individual observations to likelihood equations are weighted according to sampling weights as described, for instance, by Lehtonen and Pahkinen (2004, chap. 8). Nevertheless, the use of sampling weights for purposes other than the estimation of population descriptive quantities is controversial. Vandecastele and Debels (2006) study the effects of weighting on the estimation of frequency distributions using data from the European Community Household Panel; they find that the effect of weighting may or may not reduce estimation bias according to the strength of the relationship between the drop-out descriptor and the variables used in weighting. Kristman et al. (2005) compare various methods, including weighting used in the literature, to deal with attrition in epidemiological studies regarding the estimation of odds ratios and confidence intervals for dichotomous regression coefficients in logit regressions. They consider various simulation settings and dropout mechanisms, but weighting, although beneficial in some circumstances, does not emerge as a uniform improvement over the analysis restricted to complete cases. The same is true for all other methods. Kott (2007) and Magee (1998) characterise situations in which sampling weighted estimation outperforms unweighted estimation, but they limit their analysis to linear regression models. In summary, sampling weights may or may not be useful in reducing bias (and when this is the case, it is very difficult to verify it in practice), but they always inflate the variance of estimated coefficients. This is the reason we chose to conduct an unweighted estimation exercise.

Two remarks are relevant before deploying the econometric approach described. First, standard issues related to initial conditions are not likely to represent a problem in the present setting. Second, there is the issue of controlling for unobserved heterogeneity. Most of the literature on transition models deals with panels in which individuals are observed at several points in time (three points in time or more). Here, we consider three independent samples for one time period (2004-2005), in which we have only two observations for each individual. For this reason, we do not take initial conditions into consideration. These have to be accounted for when we have multiple observations for

each individual, as his trajectory in the labour market may be influenced by the individual characteristics that led him to the initial state. However, because we observe only one transition (at twelve months time-distance), we do not believe it is necessary to consider the possibility of bias in the estimates of the parameters in the logistic regression models.

Further, we consider transitions out of the state of unemployment as being independent, and we separately estimate the related MNL for each country. We therefore cannot model the initial state, as it is composed of individuals in the same state in the labour market.

The same argument illustrated for the problem of initial conditions applies to the treatment of neglected heterogeneity. In fact, in panels where a single individual is observed several times, his unobserved characteristics may influence all his transitions, but in our analysis, individuals are observed only twice. We are aware that there are other characteristics that may influence and induce correlation in the behaviour of different individuals in the sample, such as belonging to the same household or living in the same municipality. Unfortunately, we do not have this cluster-level information for our data set.

3 Data

We base our analysis on data from the EU-SILC survey (European Parliament (2003); Eurostat (2005)). The EU-SILC is a rotating panel survey based on harmonised methodology and definitions across most members of the European Union.[2] The topics covered by the survey encompass living conditions, income, social exclusion, housing, work, demography, and education.

The survey is conducted in each country by the National Institute of Statistics; the adopted sampling designs and operational details are similar, with residual differences reflecting different traditions of National Institutes (Commission of the European Communities (2008)) and specific objectives added by national governments.

As far as we are concerned, in France, the rotating scheme covers eight years, with consequent larger overlaps between successive waves; in Italy and Spain, the rotating scheme implies that each sampled household remains in the sample for four years, the overlap between year t and $t+1$ in the case of no attrition is 75%, between year t and $t+2$ is 50%, and between year t and $t+3$ is 25%. In all cases, sampling units (households) are added every year, and the whole sample in the first wave of the survey is selected according to two stages of stratified sampling designs.

Our analysis of unemployment outflows is based on the self-defined economic status at the moment of the interview (PL030 in the official coding of EU-SILC variables, Eurostat (2004)).[3] It is not consistent with the International Labour Organisation's (ILO) definition

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[2]See Eurostat (2004) for further and technical details about the EU-SILC data.

[3]The question PL030 is the variable containing information on the self-defined economic status. People are asked whether they are working, unemployed, students, in retirement, disabled, in military service, or

to the extent that people's own perception of their status differs from the rigorous criteria adopted by the ILO.[4] For instance, many people who would regard themselves as full-time students may be classified as ILO-employed if they have a part time job of few hours per week. Similarly, some people who consider themselves unemployed may not meet the strict ILO criteria of taking active steps to find a job and being immediately ready to start working.

We focus on the population aged between 15 and 64 who self-declared as being unemployed at the time of the 2004 interview, and are included in the 2005 sample. The effective sample sizes on which the models are estimated are 881 for France, 1,016 for Italy, and 1,364 for Spain. We finally note that the EU-SILC data files are endowed with cross-sectional and longitudinal sampling weights, which will not be used for the reasons described in previous section.

The Appendix Table A-1 describes the variables employed in the econometric investigations. The dependent variable is the unemployment outflow (successful exits, UE, or leaving the labour force, UN).

We consider the interactions between gender and marital status. This enables gaining insights into the role of sex and marital status across the countries analysed. In the first stage, we did include in the model specification real job experience and/or potential job experience, but they turned out to be highly correlated with age and did not generate any improvement in terms of likelihood. They were thus removed from the set of covariates.

The inclusion of age (and its squared as a proxy for labour experience) enables the study of the relationship between the probabilities of outflows and age, depicted in Figure 1.

Educational variables are defined according to the International Standard Classification of Education (ISCED). The EU-SILC distinguishes between education completed to the lower secondary stage (ISCED 0-2), upper secondary education (ISCED 3), and post-secondary or tertiary education (ISCED 5-7). We have therefore identified three dichotomous variables for educational attainment level (edu1, edu2, and edu3).

Dummy variables for the geographical area of residence (NUTS1) are included in the model specification.[5] An indicator variable accounting for self-perceived health aims to capture the effect of health status on propensity to leave the state of unemployment. Indi-

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fulfilling a domestic task.

[4]For a debate on the ILO four-week requirement for active job search, see Brandolini et al. (2004).

[5]The geographical areas of residence are classified in each state examined according to the NUTS1 system. This is the acronym of *Nomenclatura delle Unitá Territoriali Statistiche*. There are four differents kind of NUTS. NUTS0 refers to national states. NUTS1, which is employed in this paper, refers to macro regions. NUTS2 refers to DOM (France), Administrative Regions (Italy), and Autonomous Communities (Spain), respectively. Finally, NUTS3 encompasses provinces. The advantage of employing these kinds of classifications is mainly due to the homogeneity of the criteria used. This therefore facilitates cross-country comparisons of results. Following this classification, there are nine NUTS1 for France, four NUTS1 for Italy, and seven for Spain. For details on the NUTS system, see http://ec.europa.eu/eurostat/ramon/nuts/basicnuts_regions_en.html.

cators for equivalised household size and living in a densely populated area are included in the model, as they are likely to affect commitment to the labour market and job opportunities. A proxy for state dependence is also considered (unempl2003): this variable aims to capture whether being unemployed one year before the analysis influences the current propensity to leave this state (either by UE or UN).

Finally, a set of income-related covariates is introduced. We included indicators for unemployment benefits, quantiles of social transfers (described below, footnote 13), and quantiles of income of other household components. This group of variables attempts to capture whether social and income-related variables affect the individual outflows from unemployment.

3.1 Stylised facts about three European Labour Markets

The main annual labour market statistics for France, Italy, and Spain are displayed in Table 1 for the period 2000–2008.[6]

We may note that, as far as the unemployment rate is concerned, France and Italy have experienced a decreasing trend in the period considered (more marked for Italy), whereas Spain, with an unemployment rate not far from that of Italy in 2000, has experienced a weaker reduction that lasted only up to 2007, with a steep rise in 2008. The economic downturn hit these countries, especially since 2009. More precisely, Spain is the country most affected by this crisis, facing a sizeable increase in the unemployment rate (increase from 11.8% to 18% in one year). Here, we do not go through the causes and impacts of this economic downturn, as this goes beyond the scope of this paper, but it is nonetheless relevant to highlight the evolution of these economic indicators.

The LTU (Long Term Unemployment) incidence - defined as the share of LTU[7] on the total unemployment bulk - is higher for Italy compared to France and especially to Spain. An overall reduction trend over the period is found for all countries (this is more pronounced for Italy and Spain).

The gender gap in the LTU incidence remains small and with fluctuating signs in France; it is negligible for Italy at the beginning of the period, whereas it widens to the detriment of women during the period. The wide gap in LTU that Spain experienced at the beginning remains large and almost constant through the time span examined and always in the favour of men.

As far as participation to the labour market is concerned, the discrepancy between gender in the participation rate is relevant for Spain but reduces through the period. This, combined with the statistics for LTU incidence, suggests that Spanish females who take part in the labour force remain more frequently in the unemployment state compared to

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[6]The data in Table1 are collected by the OECD. Relevant discussions on the main labour market trends are also found in European Commission (2008).

[7]LTU, in accordance with the ILO's definition, includes individuals unemployed for twelve months or more.

males. Finally, France shows the lower gaps across genders. Together with the close LTU gap, this suggests that the gender gap might not be an issue in this country.

Focusing on 2004-2005 (for which we study the determinants of unemployment outflows), note that Italy has the lowest unemployment rate, whereas Spain experiences a remarkable reduction and the others do not.

Table 1: Annual Labour Market statistics, 2000-2008

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Unemployment rate (%)									
France	9	8.3	8.6	9	9.2	9.3	9.2	8.3	7.8
Italy	10.1	9.1	8.7	8.5	8	7.7	6.8	6.1	6.8
Spain	11.1	10.4	11.1	11.1	10.6	9.2	8.5	8.3	11.4
LTU incidence (%) total									
France	42.56	37.59	33.76	40.98	40.86	41.39	42.23	40.36	37.88
Italy	61.3	63.36	59.19	58.23	49.72	52.16	52.89	49.91	47.54
Spain	47.58	44.04	40.2	39.78	37.66	32.55	29.53	27.62	23.76
LTU incidence (%) men									
France	41.2	37.6	32.2	40.7	40.8	40.5	42.8	40.6	39.3
Italy	61.4	63.7	58.2	57.5	47.3	50.5	50.8	47.3	44.9
Spain	41	37.9	34.3	34.3	33.2	28.2	25.9	23.9	18.8
LTU incidence (%) women									
France	43.7	37.6	35.2	41.3	41	42.3	41.7	40.1	36.5
Italy	61.2	63.1	60.1	58.9	52	53.8	54.8	52.3	49.9
Spain	52.2	48.6	44.5	43.9	41.1	36	32.2	30.5	28.9
Male Participation rate (%)									
France	75.2	75.2	75.5	75.7	75.5	75.3	75	74.8	74.8
Italy	74.1	74.1	74.3	74.7	74.9	74.6	74.6	74.4	74.4
Spain	78.8	78.4	79.1	80	80.4	80.9	81.3	81.4	81.8
Female Participation rate (%)									
France	62.4	62.4	63	64.3	64.6	64.8	64.9	65.3	65.6
Italy	46.3	47.3	47.9	48.3	50.6	50.4	50.8	50.7	51.6
Spain	52	50.9	53.1	55.1	56.8	58.3	60.2	61.4	63.2

Source: OECD data.

4 Estimation Results

In this section, we examine the models' estimates for both the unemployment outflows across the three European countries. At the end of the section, we describe the results of our tests of the joint significance of the main variables of interest, namely, gender–marital status interactions, and geographical macro–regions of residence.

To ease the interpretation of coefficients related to categorical variables, we always alias the level describing better situations or conditions.

4.1 Successful exits from unemployment

Tables 2–4 contain the estimates of our multinomial logit models for the three countries we consider. Note that in keeping with (2) the parameters in these tables inform as to the log odds ratio of making a UE transition with respect to remaining unemployed (UU). Because the logistic model is a linear regression in the log-odd ratio, $[exp(\beta_j) - 1] \times 100$ provides us with the impact of a unit variation of X_j on the odd ratio.

The interactions between gender and marital status exert a relevant impact on UE transitions in all countries. The negative sign of these covariates suggest the advantage of married males (omitted category) in such successful exits. Females, both married and unmarried, face higher difficulties in exit unemployment successfully.

An individual's age is relevant in France and Spain, whereas it does not affect the Italian unemployment outflows. This latter result contrasts with the empirical evidence from Italy in the 90s. In that decade, as confirmed by Paggiaro (2005) and Mussida (2010), age was a relevant determinant of both the duration of unemployment and exit routes (or competing risks) from this state. More precisely, younger people faced a lower probability of successful exits from unemployment relative to older people and have a higher likelihood of remaining longer in this state. The significant coefficients of France and Spain both for age and its squared suggest an inverse U-shaped relationship between these variables. The probability of successful exits, therefore, increases up to a certain age threshold and decreases thereafter.

The first column of Figure 1 offers a visual inspection of the marginal relationship between transition probabilities and individual age to better get the pattern of these variables. We see that in France, UE reaches its maximum at the age of (approx) 25 and subsequently the likelihood decreases, by showing that the UE-age profile has an inverse U shape. The figure displays a similar pattern of UE into the Spanish labour market.

From the geographical point of view, the transitions from unemployment to employment do not strongly differ across France (only Centre East - FR7 - significantly worse than FR6 (baseline)). Geographical discrepancies in those movements markedly characterise Italy: there emerge significant differentials between the partitions with advantage of the north-east of the country. Exits with success are more difficult in the south of Italy. In Spain, individuals residing in the north-west, centre and east have a higher likelihood

of finding a job after unemployment (three of six are significant, and the sign is positive). As explained at the beginning of Section 4, the base category is the optimal situation in this case, represented by the region with lower unemployment rate (ES2). Though this baseline, we find that unemployed people living in areas with higher unemployment rates successfully exit unemployment more frequently than individuals living in regions with lower unemployment rates.

State dependence is a relevant issue in all countries. Our proxy for state dependence is negative and significant in France and Spain, signalling the existence of state dependence in unemployment. The impact is reversed in Italy, where we find a positive sign of the coefficient. Therefore, being unemployed last year raises the likelihood of successful exits in the current year. This is probably a consequence of the temporary improvement of the Italian labour market performance, subsequent to the introduction of the regulations of the mid-90s, such as the "Treu package" of 1997, L. 196/1997 and, at the beginning of the new millennium, Biagi's Law (L. 30/2003) and the subsequent decree (276/2003).[8] This legislation, aimed at increasing employment by introducing atypical and flexible job contracts. This legislation, as also remarked by Daniel and Schindler (2009), helps to enhance Italian employment, but its impact was only temporary. The sign of the coefficient of state dependence might thus reflect these temporary improvements in the performance of Italy's labour market.

The estimates suggest a disadvantage of individuals with lower education with respect to individuals holding a degree both in France and Italy. The education does not seem to be relevant in Spain, likely signalling that the unemployment has equally hit all kinds of occupations, both skilled and unskilled (white and blue collar).

Further, unemployed living in densely populated areas face a lower likelihood of exiting unemployment successfully both in France and Italy. They already live in places offering higher employment perspectives (and with lower unemployment rates): if they are unemployed in these areas, they tend to remain in this state longer than individuals living in less densely populated areas. In other words, unemployed residents in areas characterised by lower unemployment rates (urban areas) are more likely to be individuals on the margin of the labour force, with low opportunities of exiting this condition. This is confirmed by specific unemployment outflows probabilities, which are lower with respect to the national average and may also explain what we observed for lower unemployment rates areas in Spain. Individuals residing in more densely populated areas have higher probabilities of remaining unemployed.[9] Further, half of the unemployed residing in urban areas are have low education levels (being illiterate or having completed compulsory

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[8]For an assessment of the Treu Reform, see Sciulli (2006b), Sciulli (2006a) and Daniel and Schindler (2009).

[9]In Italy, the probability of successful exit in urban areas is 13%, compared to a national average of 15.5%. The likelihood of leaving the labour force after unemployment is 5%, compared to an average Italian rate of 7.5%. The likelihood of remaining unemployment, instead, is of about 82% compared to an Italian rate of 77%.

education), only a third have completed secondary education (holding a diploma), and the remaining holds a degree. This might contribute to explaining the reduced opportunities of exiting unemployment of these individuals.

We note that receiving unemployment benefits affects the successful unemployment outflows of the French and especially the Spanish labour markets, whereas these do not affect the Italian labour market. The work of Bentolila et al. (2010) compares the Spanish and French systems of unemployment benefits, and the Spanish system appears to be more generous than the French one. This might help in explaining the higher relevance of unemployment benefits in Spain. Further, the Spanish Social Security system provides benefits to the unemployed for a maximum period of two years, provided that they worked during the six years before becoming unemployed. These benefits, therefore, are paid under some relevant constraints, referred to the duration of benefits provision and to the past employment story.[10] These two conditions might represent incentives to actively look for work and therefore to quickly leave the state of unemployment.

The absence of the significance of unemployment benefits in Italy is primarily due to their negligible diffusion in the time span analysed and also to the strictness of the criteria of eligibility. Unemployment in Italy is poorly compensated. Unemployment benefits are not provided for youths in search of their first job; for adults, these are scarcely provided.[11].

The income-related variables are relevant only for France. Receiving income from social transfers other than unemployment benefits or having other household components perceiving income exerts an impact on successful unemployment exits. More precisely, individuals perceiving low social transfers have a higher probability of leaving unemployment compared to individuals with higher social transfers.[12] These results suggest that individuals with more economical difficulty (poorer) have an increased propensity to successfully leave the state of unemployment. It may also indicate either that receiving social transfers reduce the willingness to find work or that social transfers are guaranteed only for people in disadvantaged categories in the labour market. There are thus different alternative explanations for the observed results. It might be interesting to analyse these issues in depth, but this goes beyond the scope of this paper. We also find that the unemployed with low income from other household components face higher difficulties to leave unemployment with success. This might be due to social or related networks associated with other members' jobs. Individuals belonging to households in which other components work are, indeed, frequently introduced in social networks, which might be helpful for their finding jobs once they are unemployed.

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[10]For details on the Spanish Social Security system, see Bentolila et al. (2008).

[11]For punctual definitions, see http://www.inps.it/newportal.

[12]Social transfers include pensions from individuals private plans and different kinds of benefits, such as unemployment benefits, old-age benefits, survivor and sickness benefits, disability benefits and education-related allowances.

Table 2: France: Multinomial logit estimates

	UE	UN
female_married	-.652[**]	-.212
female_unmarried	-.790[***]	-.032
male_unmarried	-.539[**]	-.266
age	.104[**]	-.226[***]
agesq	-.002[***]	.002[***]
eqfamsize	-.144[**]	-.050
NUTS1[(a)]		
FR1	-.180	-1.054[**]
FR2	-.380	-.661
FR3	-.007	-1.358[**]
FR4	-.537	-2.139[**]
FR5	-.235	-1.091[**]
FR7	-.785[**]	-.505
FR8	-.113	-.466
unempl2003	-.631[***]	.356
Ubenef	1.173[*]	-.355
edu1	-.422[**]	.153
edu2	-.197	.187
health	-.358[*]	.263
city	-.417[**]	-.201
nosocialtransfer	1.269[**]	-.684
qu1socialtransfer	.697[***]	-.279
qu2socialtransfer	.646[**]	.101
qu3socialtransfer	1.069[***]	1.099[**]
noothersineq	-.698[*]	-.094
other1	-1.244[***]	-.087
other2	-.620[**]	-.491
other3	-.716[***]	-.388
Pseudo R^2	.1365	
Observations	881	881

[(a)] There are 9 NUTS1: FR1 Île-de-France, FR2
Parisian basin, FR3 Nord-Pas-de-Calais, FR4 East,
FR5 West, FR6 South West (base category), FR7 Cen-
tre East, FR8 Mediterranean, FR9 Overseas depart-
ments. FR9 does not appear for the absence of unem-
ployed.
Notes: * significant at 10%; ** significant at 5%; ***
significant at 1%
Source: Author's calculations using 2004/2005 EU-
SILC data.

Table 3: Italy: Multinomial logit estimates

	UE	UN
female_married	-1.275***	1.350**
female_unmarried	-1.509***	0.516
male_unmarried	-1.413***	0.287
age	-.063	-.114*
agesq	.000	.001*
eqfamsize	-.016	-.162*
NUTS1[a]		
IT1	-.528*	-.793*
IT3	-.745**	-1.001**
IT4	-1.723***	-.574*
unempl2003	.802***	.073
Ubenef	-.150	-.207
edu1	-.646**	-.199
edu2	-.430	-.745**
health	.326	-.490
city	-.768***	-.725***
nosocialtransfer	.342	1.130**
qu1socialtransfer	.217	-1.567**
qu2socialtransfer	.757	-.876
qu3socialtransfer	-.133	-.915
noothersineq	.009	-.737
other1	-.296	-.240
other2	-.162	-.085
other3	-.081	-.518
Pseudo R^2	.1007	
Observations	1016	1016

[a] There are 4 NUTS1: IT1 North-West, IT2 North-East
(omitted category), IT3 Centre, IT4 South and Islands.
Notes: * significant at 10%; ** significant at 5%; ***
significant at 1%
Source: Author's calculations using 2004/2005 EU-
SILC data.

Table 4: Spain: Multinomial logit estimates

|	UE	UN
female_married	-2.399***	-1.775***
female_unmarried	-1.533***	-.804***
male_unmarried	-.541*	-.033
age	.189***	.113**
agesq	-.003***	-.001***
eqfamsize	-.218	-.126
NUTS1[a]		
ES1	.747**	.854***
ES3	.469	-.517
ES4	.497*	.155
ES5	.723*	-.128
ES6	.199	.241
ES7	.272	-.595
unempl2003	-.852***	-.431**
Ubenef	.952**	.876**
edu1	-.077	-.091
edu2	.133	.009
health	.465**	.117
city	-.149	.453***
nosocialtransfer	.618	.481
qu1socialtransfer	.041	-.156
qu2socialtransfer	.011	.041
noothersineq	.174	.194
other1	-.123	.429**
other2	.013	.392**
other3	.167	.295
Pseudo R^2	.1133	
Observations	1364	1364

[a] There are 7 NUTS1: ES1 North West, ES2 North East (base category), ES3 Community of Madrid , ES4 Centre, ES5 East, ES6 South, ES7 Canary Islands.

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%.

Not labour income distribution divided in 3 quantiles (qu3 as base category).

Source: Author's calculations using 2004/2005 EU-SILC data.

Figure 1: Unemployment Outflows
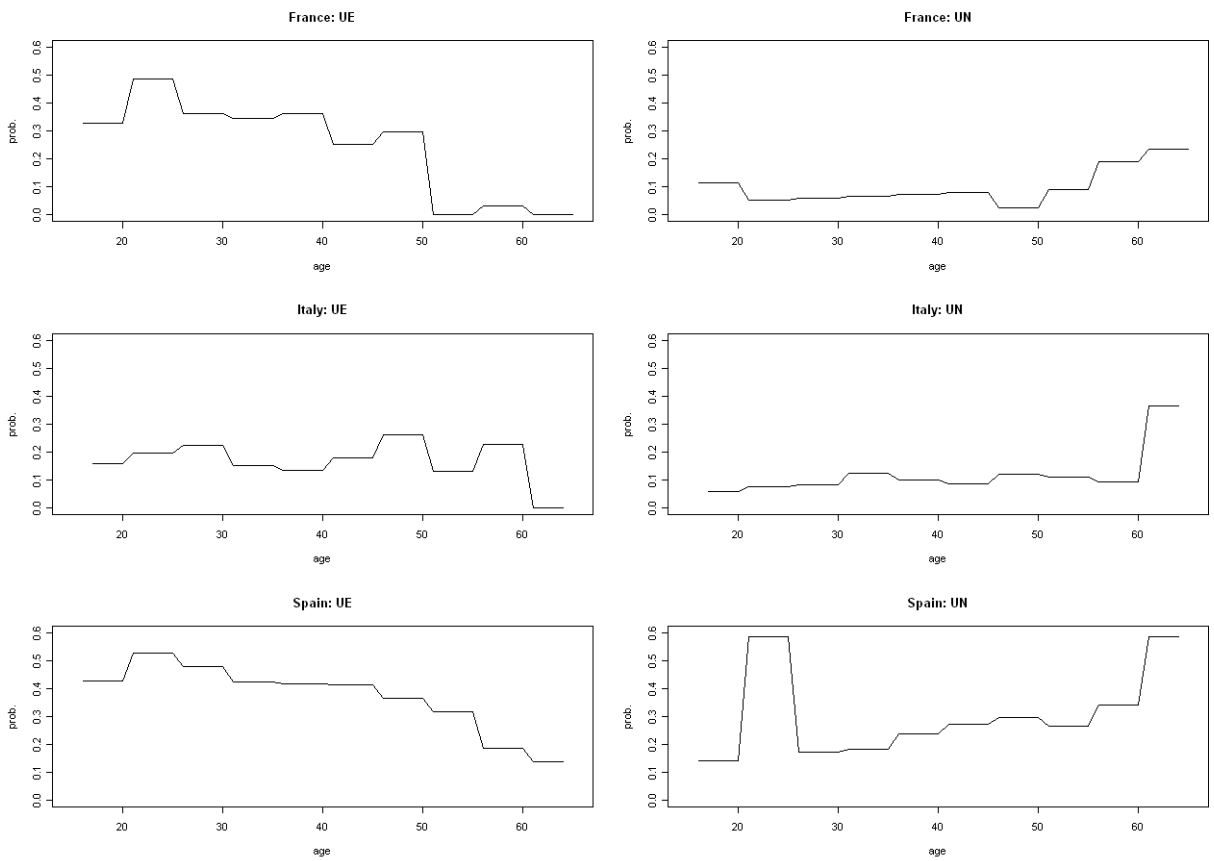
4.2 Leaving the labour force

In this section, we highlight the estimation results for the transitions from unemployment to inactivity across the countries analysed.

The interactions between sex and marital status do not affect the French unemployment outflows. These are relevant only for married females in Italy and for all females in Spain. The striking difference between these two countries refers to the sign of these covariates. The coefficient for Italy suggests a higher likelihood of leaving the labour force after unemployment for married females compared to married males, signalling a discouragement effect for women. The effect is reversed in Spain; here, females - both married and unmarried - remain unemployed for a longer time. This behaviour is also confirmed by labour market statistics on LTU incidence (Table 1)); we find that the gender gap in such incidence is higher for Spain. Further, the literature suggests that Spain has a higher proportion of LTU in comparison to other European countries, such as France and Italy (e.g., Gutiérrez and Guillén (1998)). Long-term unemployment typically affects Spanish women and younger people.

Individual age is relevant both for France and Spain. The signs for age and its squared suggest a U-shaped relationship for France; the likelihood of leaving the labour force after unemployment decreases up to a certain age threshold and increases thereafter. The opposite effect - an inverse U-shaped relationship - is observed for Spain. The second column of Figure 1 displays the relationship between the probability of UN and age (raw data). In France, we see an almost stable probability of UN up to 45 years, a decreasing likelihood thereafter, and a subsequent increase after the age of 50. This latter effect is due to the retirement system. The graph for Spain suggests a striking increase in UN for younger people and a reduction past the age of 25. This non-negligible increase of Spanish probability confirms the findings of Gutiérrez and Guillén (1998) of higher unemployment and LTU incidence for younger people.

The transitions from unemployment to inactivity are more heterogeneously distributed across macro-regions compared to successful exits discussed in the previous section. France shows remarkable differences in four partitions with respect to the omitted category. More precisely, the likelihood of leaving the labour force is lower in these regions with respect to the south-west. This signals more difficulty faced leaving the state of unemployment for these individuals. The same effect is found for Italy; the unemployed living in north-west, centre, and south face a lower probability of leaving the labour force after unemployment compared to individuals residing in the north-east (base category). Our base category for geographical location in each country is the area with a lower unemployment rate. This may suggest a lower presence of discouragement effect in the regions with few unemployment problems. Transitions from unemployment to inactivity are instead homogeneously distributed across Spanish macro-regions (only one partition is significant, north-west).

Living in urban areas helps unemployment outflows in Spain, whereas an opposite

effect is inferred for Italy. This latter effect is due to the same reasons explained in the last paragraph. In Spain, instead, unemployed people living in densely populated areas do not find it difficult to leave this state.

The income-related variables exert lower impacts on the transitions from unemployment to inactivity with respect to the successful exits. We confirm the relevance of unemployment benefits in Spain for the reasons discussed in the previous section.

4.3 Joint significance

We performed Wald tests (Wald, 1943) of the joint significance of the covariates of interest to assess their overall relevance on the unemployment outflows (both UE and UN in Tables2–4). Gender and marital status interactions are all jointly significant for Italy and Spain. For France, we get joint relevance for both married and unmarried females. These results suggest that across the three European countries, gender and marital status highly affect the transitions out of unemployment.

As regards the geographical partitions, we observe joint significance for all the NUTS1 in Italy. This confirms our findings of geographical discrepancies across the country. For France, the test is verified only for the east of the country (including Lorraine, Alsace, and Franche-Comté). Finally, we observe joint significance for the north-west, centre, and eastern regions of Spain and the Canary Islands.

5 Conclusions

In this paper, we applied a multinomial logit regression to study the determinants of unemployment outflows at the individual level. We considered three EU countries - France, Italy and Spain - for which EU-SILC longitudinal data are available for 2004-2005.

We focused on the possible effects of gender/marital status and region of residence, as we were mainly interested in measuring the size of gender gaps and regional disparities, two major hurdles faced on the road to social cohesion. Control variables such as age, education, status in the labour market one year before the initial time of observation, unemployment and other social transfers, household context and income were also considered.

Before conducting this examination, we expected quite similar situations in the three countries. Indeed, they are all continental European countries with some cultural similarities and have experienced high unemployment rates and long-term unemployment incidence in recent years (e.g., Gutiérrez and Guillén (1998)).

In fact, striking differences emerge from our analysis, especially in terms of the effects of gender and marital status. Regional disparities are present in all three countries, but to different degrees. For instance, an apparent difference in the behaviour of unemployed females separates Italy and Spain. In the former, we find a discouragement effect for

the female component of the unemployed, whereas in the latter, a higher persistence of females in the state of unemployment emerges.

Geographical disparities are relevant especially for Italy, with respect to outflows from unemployment in both directions (employment and inactivity). Nonetheless, we found geographically heterogeneous transitions from unemployment to inactivity in France, whereas in Spain there is regional disparity as far as successful exits from the labour marked are concerned. In general, we observe a lower discouragement effect in regions characterised by high unemployment rates. This is also true when unemployed people living in densely populated urban areas are contrasted with unemployed people living outside these areas.

Appendix

Table A-1: Description of variables

Variable Name	Variable Label
unemployed	1 for UE, 2 for UN, 3 for UU (base)
female_married	1 for married female
female_unmarried	1 for unmarried female
male_unmarried	1 for unmarried male
male_married	1 for married male (base category
age	age of the individual, [15-64] age bracket
agesq	individual age squared
eqfamsize	equivalised household size
nuts1[a]	dummy variables for macro-regions of residence
unempl2003	1 if unemployed in 2003: proxi for state dependence
Ubenef	1 for perceiving unemployment benefits
edu1	1 if illiterate or having completed compulsory education
edu2	1 if holding a diploma
edu3	1 for holding a degree or PhD (omitted category)
health	1 for good health/no chronic illness
city	1 for living in densely populated areas
qu1-qu4socialtransfer	quantiles of social transfers. qu4: base category
nosocialtransfer	1 for not perceiving social transfers
other1-other4	quantiles of income of hh components. other4 omitted
noothersineq	1 for other hh members without income

[a] Baseline category is the macro-region with the better labour market performance (e. g. with lower unemployment rates).

Table A-2: Summary statistics

	France	Italy	Spain
female_married	.239	.229	.299
female_unmarried	.272	.289	.258
male_unmarried	.281	.369	.210
age	36.66	32.83	.38.44
agesq	1738.3	1192.7	1632.9
northw	.154	.123	.206
centre	.236	.162	.249
south	.198	.597	.362
unempl2003	.706	.587	.631
Ubenef	.569	.184	.373
edu1	.412	.523	.608
edu2	.405	.331	.195
health	.345	.906	.806
city	.558	.359	.395
nosocialtransfer	.403	.233	.598
qu1socialtransfer	.149	.058	.002
qu2socialtransfer	.150	.059	.154
qu3socialtransfer	.150	.065	.146
eqfamsize	3.046	3.587	3.653
noothersineq	.059	.043	.059
other1	.235	.207	.190
other2	.236	.250	.250
other3	.235	.250	.250
Observations	881	1016	1364

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