PROPOSTA PER SESSIONE 1: QUALITA' DEL LAVORO

"Dreaming of a stable job:
the transitions of temporary workers in Italy and Spain"

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ABSTRACT

Aim of this paper is to shed further light on the transitions of temporary workers towards stable employment in Italy and Spain. The analysis is focused on the transitions of involuntary temporary workers (i.e., those choosing to work on a fixed-term basis only because they could not find any permanent job), comparing their performance with both voluntary temporary workers and the unemployed.

The share of involuntary temporary employment is in fact particularly relevant both in Italy and Spain (respectively, 41% and 70% of total temporary workers aged 15-64, against the EU average around 34% in 2002), despite the different incidence of overall temporary work.

The institutional similarity between Italy and Spain (tight labour market regulation, extended family networks with low female participation rates, relevant internal regional differences), accompanied by quite different policies for (and subsequent use of) temporary employment, represent an interesting ground to study the transitions of temporary workers towards more stable jobs.

The empirical analysis, based on longitudinal micro-data from the Italian and the Spanish Labour Force Survey, actually reveals two different models. Italian unemployed are in fact less likely to find a job than the Spanish unemployed, but the first are more likely to get a stable job than a temporary one. Furthermore, temporary employees in Italy are characterized by a significant probability to get a stable job and a relatively low probability to fall into unemployment. On the contrary in Spain the unemployed are more likely to find temporary jobs rather than remaining in their initial state, but once there they seem to be stuck. Econometric estimates point out that temporary workers in both countries are actually more likely to get a stable job than the unemployed, while no significant differences seem to emerge between involuntary and other temporary employees. Nonetheless, the marginal effect of temporary work experience (holding other factors constant) is much higher in Italy than in Spain (0.25 vs 0.03). Furthermore, the positive effect of temporary work experience may be lower if endogeneity of the initial condition is taken into account, suggesting that temporary workers are from the beginning "stronger" than the unemployed and for this reason, rather than for the temporary work experience itself, they are more likely to get a permanent job.

KEY WORDS: involuntary temporary employment, labour market transitions

JEL CODES: J21, J60, J68

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1. Introduction

The last decades have witnessed a significant increase of flexibility in most European labour markets, characterized also by a relevant use of external flexibility, mainly of temporary and fixed-term contracts (OECD, 1999).

In 2002, in the EU 13% of total employees were employed with such type of flexible contracts, ranging from 6% in the UK to 31% in Spain (Eurostat, 2003).

Public support to temporary employment has been driven by their potential positive effects in terms of higher employability and lower risk of long-term unemployed. Temporary work should in fact help the unemployed to get (back) into employment and preserve or improve their human capital through work experience, thus reducing unemployment spells and enhancing the probability to fine better (stable) jobs. Empirical evidence seems also to suggest that employers themselves may use temporary contracts as a way to select and screen future permanent employees (Storrie, 2002; Houseman et al. 2003).

On the other side, it has been argued that such positive effects may be offset by relevant costs in terms of temporary jobs quality and career opportunities. As long as temporary workers are characterized by lower wages and worse labour market conditions than permanent employees and flexible firms adopt a quite clear segmentation of the workforce into "core-stable" and "peripheral-temporary" workers, then dual labour markets may arise and temporary workers may become involuntarily trapped in this state (Lindbeck and Snower, 1990; Saint-Paul, 1996).

Current empirical evidence on the effects of temporary employment on the probability of finding subsequent stable/better jobs is rather mixed and results vary with the country and the time period considered.

Aim of this paper is to shed further light on the transitions of temporary workers towards stable employment in Italy and Spain, paying specific attention to the transitions of the so-called involuntary temporary workers (i.e., those working on temporary contracts because they could not find any permanent job) and comparing their performance with both other temporary employees and the unemployed.

The incidence of involuntary temporary employment is in fact particularly relevant both in Italy and Spain (respectively, 41% and 70% of total temporary workers aged 15-64, against the EU average around 34% in 2002), despite the different incidence of overall temporary work.

In the European context, Italy and Spain share the label of countries with tight market regulation, as defined by various indicators of direct firing costs, procedural restrictions to workforce adjustment and other employment protection features (Grubb and Welles, 1993; OECD, 1999). They also share the "Mediterranean" welfare and household model, with rather extended family networks and low female participation rates, as well as significant regional differences between the more developed North and an underdeveloped South. Both these two countries have also recently experienced de-regulation processes, although with varying degrees and timing, with a stronger emphasis on the use of fixed-term contracts in Spain rather than in Italy. In both cases, the pressing force underneath the changes has been unemployment.

The institutional similarity between Italy and Spain, accompanied by quite different policies for (and subsequent use of) temporary employment, represent an interesting ground to study the transitions of involuntary temporary workers towards more stable jobs.

In light of our research objectives, in the following section we highlight the main institutional features of temporary employment regulation in Italy and Spain, while in section 3 we discuss existing literature on temporary workers transitions. Section 4 presents the empirical model and related econometric issues. The data used in the empirical analysis are illustrated in section 5, where we pay specific attention to the comparability of definitions and available information. We then discuss the main results in section 6, while the last section contains some concluding remarks and relevant policy implications.

2. The institutional setting

Italy

Cross-countries analysis usually ranks Italy among the most rigid and regulated labour markets, especially in terms of hiring and firing rules and definition of atypical contracts (Grubb and Wells, 1993; OECD, 1997).

Individual dismissals of workers employed with standard contracts (i.e., full time open-ended contracts) are regulated by law (1970 Statuto dei lavoratori) and extremely restrictive in the case of medium-large establishments (i.e., with more than fifteen employees). Special benefits (Cassa Integrazione Guadagni - CIG - and mobility benefits) are available for workers (temporarily) laid off on a collective ground and for business reasons, but they are available only for workers dismissed by large firms.

The strict regulation of the labour market has been undergoing a transformation since the mid nineties through a series of incremental interventions and decrees, rather than an overall coherent reform. One of the most important changes in recent years is the diversification and multiplication of employment contracts, leading to an expansion of temporary employment (including seasonal employment contracts, temporary agency work, youth work-training and apprenticeship contracts). Independent contractors, i.e. workers midway between dependent and independent work, have also been rapidly increasing since the late nineties. Atypical contracts have been progressively introduced to overcome the rigidity of standard contracts and to incentive the employers to increase hires in recovery years, but they have been highly regulated until the end of the Nineties. Furthermore, fixed-term contracts have been traditionally considered as a temporary solution to specific production needs rather than a tool to reduce unemployment (Samek Lodovici, 2001). In the case of fixed-term contracts, the law and collective agreements in fact state the few strict cases in which they can be used and the limited number of times they can be renewed. Fixed-term contracts refer to employment relationships whose term is fixed by both parties in a written contract, which identifies a specific date or event (for instance, the return to work of employees on leave) that will determine the end of the employment relation. Law 230/1962 regulated fixed-term employment until the issue of a new legislative decree in fall 2001 (legislative decree 368/2001, which applied the 1999 EU Directive on fixed-term work) and the recent Law

30/2003 (the so called "legge Biagi"). Under the former legislation, fixed-term contracts were allowed only in particular cases, specified by law and, since 1987, also by collective agreements. The new legislation greatly reduces the constraints formerly imposed on fixed-term employment, introduces new forms of temporary contracts (such as job on call, job sharing, insertion contract, staff leasing) and makes its use more flexible for firms. It does not refer to a specific list of reasons, stating generally that workers may be hired on fixed-term contracts 'for technical, productive and organisational reasons or in substitution for absent personnel'. No maximum duration is envisaged but, in case of extension, the total duration can't exceed three years.

A specific fixed-term contract (Work-Training contract, "Contratto di formazione e lavoro", CFL) was available for young people until 2003 and its use was encouraged since 1984 through reductions in social security contributions and some simplifications in hiring procedures. This contract (and its lower labour cost) was designed to promote on the job training for the young, thus enhancing their employment probability. In practice, the training content was usually poor and most firms used this contract mainly as a way to save on labour cost, producing negative substitution effects on the hiring of low skilled workers, either adult or young (Adam and Canziani, 1997). In 2003, to avoid the sanctions imposed by the European Commission, CFL have been transformed by the Biagi law into "Insertion contracts", whose use is limited to specific disadvantaged groups of the population. The use of CFL started declining in the second half of the Nineties (essentially since the issue of law 196/97) because it was progressively substituted with apprenticeship and other fixed-term contracts, which became relatively more convenient in the meanwhile.

Temporary agency work has been formally allowed only in 1997 (by law 196/97, the so called 'Treu Package' after the name of the proposing Labour Ministry). In the case of temporary agency work, we have to distinguish between the contract which links the agency to the user firm (contract for the provision of temporary work, contratto di fornitura di prestazioni di lavoro temporaneo) and the actual contract of temporary work (contratto per prestazioni di lavoro temporaneo), which binds the agency and the worker. The latter may be concluded either as a permanent employment contract or as a fixed-term contract. In the first case, the workers remain at the disposal of the agency during the periods in which they are not assigned to specific 'missions'. In the second case, the employment contract has the same duration as the 'mission' agreed in the contract for the provision of temporary work. So far, the great majority of temporary agency workers has been hired on fixed-term contracts. According to the Italian legislation, temporary agency work is allowed in the cases defined by sectoral collective bargaining, for the temporary use of skills not provided in ordinary production structures and for the replacement of absent workers. Besides, in each using firm, the number of temporary agency workers cannot exceed the percentage of permanent employees defined by sectoral collective agreements.

Both in the case of fixed-term employment and temporary work the principle of equal treatment applies. Fixed-term workers have in principle the same rights and working and pay conditions as standard employees. This means that wage levels must be at least the same as those granted to permanent employees in the same job and with the same level of qualification. Similarly, non-permanent employees have the right to the same amount of holidays as permanent workers, proportionally to the period they work in the specific firm. Fixed-term workers may benefit of sick leave or other kind of

leave periods (for instance, maternity leave) within the time limit defined by the duration of their employment contract. Furthermore, they are entitled to be trained to prevent on the job injuries.

In practice, however, non-permanent employees may be discriminated in terms of lower wages and other work-related benefits (such as holiday pay or sick pay) when compared to 'permanent' employees. Worse working conditions are more likely when temporary work is of short duration and/or on a part-time basis. In addition, studies on employment transitions often find a relation between temporary employment and unemployment, as longer periods of non-employment influence negatively employees' skills and subsequent their re-employment probability. (Booth et al., 2002)

Thus in Italy moves toward temporary work have been much milder than in Spain and have been introduced recently. This is reflected in the size of temporary employment: at the end of 2003, non-permanent employees were 1.58 million, corresponding to around 10% of total employment, almost 4 percent points higher than ten years earlier, but as much as 22 percentage points lower than the in Spain.

Spain

3. Literature review

4. The empirical model

Aim of the empirical analysis is to study the probability of transition to stable employment conditioning on, *coeteris paribus*, whether the individuals were either unemployed or temporary employees at the beginning of the period considered.

We can express the so called "transition equation" as follows:

$$Y_{it} = \beta'X_{it-1} + \delta TEMP_{it-1} + \varepsilon_{tt} \qquad\qquad [1]$$

Where Y is a binary variable which is equal to 1 if the individual holds a permanent job at time t (0 otherwise), TEMP captures the condition in the labour market at t-1 (i.e., either temporary worker – TEMP=1 - or unemployed) and X includes a set of other conditioning variables (all measured at t-1) [1]. We assume that the error term follows the usual standard normal distribution, such that: $\varepsilon_{it} \sim N(0,1)$.

The model may be estimated using a traditional binary dependent variable model (such as Probit or Logit estimators). This is like assuming the exogeneity of the initial state (that is, being either temporary or unemployed at t-1) and it requires that the eventual persistence in the initial condition is entirely due to observed explanatory variables.

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[1] P is a binary variable which is equal to 1 if the individual holds a permanent job at time t, 0 otherwise.

If the initial state is not exogenous, using a simple probit estimator will lead to biased estimates of the "true" effect of the initial condition on subsequent transition probabilities. In other terms, if the initial state depends on unobserved heterogeneity (or shock persistency) and the latter is also correlated with the probability of transition to stable employment, past initial state is endogenous with respect to current employment state (i.e., $TEMP_{t-1}$ is correlated with ε_t in equation [1])[2].

This is a typical problem of "initial condition" (Heckman, 1981) and it can be tackled as a traditional endogenous selectivity one, in which transition probabilities and the probability of selection into the initial state are simultaneous estimated (Stewart and Sheffield, 1999; Cappellari, 2001).

This may be done using a switching endogenous model, in which we jointly estimate the probability of being in a certain initial state and the probability of transition to stable employment (conditioning on the initial state), assuming a certain correlation between the unobservables of the equations:

$$\begin{cases} TEMP_{it-1} = \gamma' Z_{it-1} + v_{it-1} \\ Y_{it} = \beta' X_{it-1} + \delta TEMP_{it-1} + \varepsilon_{it} \\ (v, \varepsilon) \sim \Phi_2(0, 1, \rho) \end{cases} \qquad [2]$$

where v and ε are jointly distributed as a bivariate standard normal distribution with $E(v)=E(\varepsilon)=0$ and $Var(v)=Var(\varepsilon)=1$. It follows that the correlation term ρ equals also the covariance between v and ε[3].

The log-likelihood contribution for the i-th individual is then given by:

$$\begin{aligned} \ln L_i = \;& (TEMP_{it-1}=1)(Y_{it}=1)\Phi_2(\gamma'Z_{it-1}, \beta'X_{it-1}, \rho) \\ &+(TEMP_{it-1}=1)(Y_{it}=0)\,\Phi_2(\gamma'Z_{it-1}, -\beta'X_{it-1}, -\rho) \\ &+(TEMP_{it-1}=0)(Y_{it}=1)\,\Phi_2(-\gamma'Z_{it-1}, \beta'X_{it-1}, -\rho) \\ &+(TEMP_{it-1}=0)(Y_{it}=0)\,\Phi_2(-\gamma'Z_{it-1}, -\beta'X_{it-1}, \rho) \qquad [3] \end{aligned}$$

In order to identify the model in [2], one may rely on its functional form, provided its non-linearity. Alternatively, we need some exclusion restrictions affecting the initial state (i.e., entering the Z vector), with no effects on the transition probabilities (once conditioned on the initial state). Information prior to labour market entry (such as parental background) may be candidate instruments (Heckman, 1981).

In our case, finding valid instruments might be quite difficult, since we don't have direct information on parental background or complete information on past work and unemployment experience for each individual. However, provided the relatively high

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[2] This is clear if we further assume that the error term in [1] can be considered as the sum of an individual (time-invariant) specific effect and an orthogonal white noise error: $\varepsilon t = \mu i + u it$. If the individual specific effect is correlated with the initial state TEMP, then the latter is endogenous in [1].

[3] Remind that: $corr(X,Y)=cov(X,Y)/(\sigma_X\sigma_Y)$. In this case, $\sigma_X=\sigma_Y=1$.

mobility of temporary employment (at least with respect to other working states), local availability of temporary jobs by skill at the beginning of the period is likely to influence the initial probability of being a temporary worker (rather than unemployed), but it should not influence *per se* subsequent individual transitions to stable employment, provided we also control for local labour market conditions (through regional unemployment rates). In particular we used as instruments both the lagged incidence of temporary employment by region and skill (the latter measured by education level) and its lagged change (i.e., change in the incidence of temporary employment by region and skill from period t-2 and t-1)[4].

In section 6 estimates of transition models under the assumptions of both exogenous and endogenous sample selection will be presented.

5. Data and definitions

Empirical analysis is based on longitudinal individual data from the Italian and Spanish Labour Force Surveys (LFSs). The most recent waves (2000-2001 and 2001-2002 for Italy; also 2002-2003 and 2003-2004 for Spain) were used[5]. Italian data refers to the second quarter of each year, while Spanish data refers to all the 4 quarters.

Table 1 summarizes the main feature of the survey in the two countries and the number of relevant individuals available for longitudinal studies.

The LFS is the most comprehensive survey on the labour market and its harmonized structure allows reliable comparisons between EU countries. The unit of analysis is the household in Italy, the dwelling in Spain. More than 75,000 households and 65,000 dwellings are surveyed each quarter, respectively, in Italy and Spain. The coverage rate of the survey is then around 0.36% in Italy, 0.5% in Spain.

The panel structure differs in the two countries. In Italy the households are rotated according to a 2-2-2 rotation plan: households are interviewed during two consecutive quarters and they are interviewed again twice (in the corresponding two quarters of the following year) after a two-quarter interval. Spanish dwellings remain in the sample for six consecutive quarters. Both surveys should allow the analysis of both quarterly and yearly transitions, but only the latter information has been recently released in Italy. The following results are then based on year-to-year transitions in both Italy and Spain.

Definitions

The empirical analysis will focus on the unemployed and temporary employees. The first are identified on the basis of the usual ILO definition[6], while temporary employees are those dependent workers whose contract states a fixed end (determined by objective conditions such as a specific date, the completion of a task or the return of another

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[4] We are checking the validity of other instruments, such as the relation with other family members.
[5] We are extending our analysis to other past waves, covering from 1993 to 2002.
[6] Persons in unemployment are those who, during the reference week had no employment, were available to start work within the next two weeks and had actively looked for a job at some time during the previous four weeks. Persons having found a job which was to start later are also classified as unemployed.

employee who has been temporarily replaced). Temporary employment includes fixed-term contracts, temporary help workers, seasonal employment and specific training contracts (as long as objective criteria for the end of the contract are clearly stated).

According to these definitions, the number of unemployed counted in the longitudinal data from 2000 to 2002 are almost 7000 in Italy, … in Spain, while the number of temporary employees are more than 2300 in Italy,…. in Spain (table 1).

The LFS survey provides also information on the main reason why people hold a temporary contract. In particular, you may know whether they could not find a permanent job or they actually didn't want a permanent job. Following international classifications, we considered the first group as involuntary temporary workers, while all the other temporary workers were classified in a unique residual category, named "other temporary employees"[7]. According to this definition, around 45% of temporary workers in Italy are involuntary, while the same share is around 75-78% in Spain.

6. Main results

6.1. Descriptive statistics

Figure 1 depicts the evolution of the incidence of temporary employment in Italy and Spain in the last decade. In Italy temporary employment has been progressively growing, going from 6% of total dependent employment in 1993 to around 10% in 2003. This growth has been registered for both males and females, but the latter have been experiencing a steeper increase. Despite of this trend, temporary employment in Italy is still much lower than in Spain, where it represents around 30% of total employees in 2003. Spanish temporary employment reached its peak in 1995 (around 35%) and then it started declining. Female temporary employment went from almost 40% in the mid-Nineties to 35% in 1998, where it remained in the subsequent years. Male temporary employment has been experiencing a more constant decline, from almost 35% in 1995 to less than 30% in 2003.

In both countries the incidence of involuntary temporary employment (i.e., the incidence of people working on temporary contracts because they could not find a stable job) has been decreasing in the long run, even if with different paces and cycles in Italy and Spain. In Italy the share of involuntary workers among temporary employees went from 52% in 1993-94 to 40% in 1999, then it started increasing again up to 45% in 2001 and then back to 40% in 2003. In Italy the long run decline in the incidence of involuntary temporary employment was mainly due to the overall increase in temporary employment (denominator effect), since the number of temporary employees has been actually increasing over the period considered (from 464 thousands workers in 1993 to 655 thousands workers in 2003). As for total temporary employment, the share of involuntary workers in Spain is much higher than in Italy. Nine out of ten workers were involuntarily on temporary contracts in the 1993-98 period. This share has been reducing since then, reaching its minimum in 2003. Nonetheless, at the end of the

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[7] In Italy the other temporary employees include also temporary workers on training contracts and on probation period. In both countries it also includes a group of workers on temporary contracts for "other reasons".

period still three out of four Spanish temporary workers held any type of fixed term contracts because they could not find any permanent jobs. In neither of the two countries relevant differences by gender seem to emerge.

Table 2 reports the yearly raw transition probabilities of unemployed and temporary employees over the period considered. Overall, temporary workers are more likely to get a permanent job than the unemployed in both Italy and Spain, but in the first country the transition probability is much higher than in the second one. In Italy more than 40% of the temporary employees are on permanent contracts one year later, while the same share is around 12.6% for the Italian unemployed. A similar probability is registered for temporary employees in Spain, where 12.8% of the initial temporary workers are subsequently employed on a permanent basis. The share of unemployed holding a stable job one year later is only slightly lower, around 9%. The Spanish unemployed are actually more likely to get a temporary rather than a stable job: more than 39% are in fact on temporary contracts one year later. On the contrary, in Italy the transition probabilities from unemployment to temporary jobs is much lower than in Spain (and lower than the transition probability from unemployment to stable jobs), around 8%.

In general, unemployment seems more persistent in Italy than in Spain (more than a half of the initial unemployed are still in this state one year later in Italy, 20 percent points higher than in Spain), but Spanish temporary employees seem more likely to become unemployed and less likely to get a stable job than the Italian colleagues.

Table 3a and 3b present the raw transition probabilities to stable employment by initial state (i.e., unemployment or temporary employees, the latter also classified as involuntary or other temporary workers) and personal characteristics.

According to the figures in the table, both in Italy and Spain the most relevant differences are those between the unemployed and temporary workers. Within the latter group, the involuntariness of the initial condition does not seem to play a major role in explaining the probability of transition to stable employment. This is in fact the same (12.8%) for involuntary and other temporary workers in Spain, while it is slightly higher for the second group of workers in Italy (37.5% for involuntary temporary workers, 43% for other temporary workers).

More heterogeneity seems to emerge in terms of personal characteristics, often regardless of the initial state.

In fact, despite of their initial state, in Italy women are less likely to get a stable job than men, while the opposite occurs in Spain.

In both countries, the probability of transition to stable jobs is clearly positively correlated with the education level, while the relationship with age is less clear-cut. In Italy, in fact it seems bell-shaped, with the highest peak at 24-29 years of age for both the unemployed and temporary workers. For the latter, the probability of transition to stable jobs is also relatively high for people aged 40-49. In Spain differences by age are less evident, but the highest probability of transition are still registered for the same age groups.

Regarding family status and composition, the most relevant result is related to the role of individuals within the family: in both countries, temporary workers who are head of the family are more likely to escape unemployment towards stable jobs, while the probability to transition from temporary to stable employment is higher for

sons/daughters (and other relatives in Italy). In general, wives/husbands that are not the head of the family register the lowest probability of transition, regardless of their initial state.

A last remark concerns individual job searching behaviour. Both in Italy and Spain, temporary workers not looking for a job are those experiencing the highest probability of transition to stable jobs. The difference is particularly relevant in the case of Italy, where almost 45% of the temporary employees not actively looking for a new job actually get a stable employment, against 33% among those searching for a job with some limitations (in terms, for example, of working time) and 30.5% among those searching any type of job. This result seems to suggest that temporary contracts are sometimes used by the employers as a probation period. In this perspective, a "not-searching" behaviour might in fact hide a high probability of being subsequently hired on a permanent contract by the same firm[8].

Table 3b focuses on the transition probabilities to stable employment of temporary employees by job characteristics. A crucial role is played by the economic sector, since in both countries the probability of transition is much lower in sectors (mainly agriculture; also construction in Spain) characterized by high seasonality. The highest probabilities are in both countries registered in traditional (such as trade and transportation) and productive services (such as finance and business services). Voluntariness of the initial state seems to be more important in Italy than in Spain, but its effect is quite different within sectors. For example, in the Italian finance sector the probability of getting a stable job is 30% for the involuntary temporary employees, almost 63% for the others. Such huge difference is registered also in the construction sector and personal services. On the other side, in business and social services the probability of transition is relatively higher among the involuntary employees than the others.

Turning to skills, in both countries being a white collar seems more important than being highly skilled within each qualification group. Regardless of their professional specialization, temporary white collars are in fact more likely to get a stable job than blue collars and these differences are more relevant among the involuntary temporary employees.

Working time is positively correlated with the probability of transition, since part-time temporary workers are less likely than full-time ones to get a stable job. Other working conditions, such as shifts and working at night, are positively correlated with the probability of transition to stable employment, but only in the case of Italy.

Finally, there seems to exist a positive relation between the length of the temporary contract and the probability of getting a stable job, mainly in the case of the other temporary workers, which include also high educated young people with training contracts. However, in Italy relatively high probabilities of transition are registered also for those who didn't specify the length of their contract, while in Spain the probability of transition is high also for contracts lasting 7-12 months, mainly in the case of involuntary temporary workers.

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[8] In this sense, searching behaviour may be correlated with other unobservable factors influencing the transition probability. This should be considered also in the following econometric estimates.

Table 4 actually reveals that the unemployed and temporary workers are on average quite different: temporary workers are in fact more likely to be males, older and better educated, married and head of the family than the unemployed. Within temporary workers, those involuntarily in this state are slightly older and less educated than the others. Furthermore, they hold a quite different role within the family, since they are more likely to be the head of the family or his/her spouse. Overall, average personal characteristics are more heterogeneous between the unemployed and the temporary employees rather than within the last group.

6.2. Econometric estimates

Table 5-7 report econometric estimates of the model discussed in section 4 assuming exogeneity of the initial condition. This has been done by estimating a probit model conditioned on the initial state[9].

Estimates in table 5 and 6 refer to both the unemployed and temporary employees. Overall, these estimates point out that temporary workers have a significant higher probability of getting a stable job than the unemployed in both Italy and Spain, even after controlling for personal characteristics and job searching attitude.

Nonetheless, the marginal effect of the initial state is much higher in Italy than in Spain: holding everything constant, the probability of getting a stable job is in fact 20-25% for Italian temporary workers (with respect to the Italian unemployed), while it is only 2-4% of Spanish temporary workers (with respect to the Spanish unemployed).

Furthermore, in both countries no significant differences seem to emerge between involuntary and other temporary employees.

Overall, transitions probabilities in Italy are more responsive to both personal characteristics and local labour market conditions than in Spain.

For example, being a woman in Italy clearly reduces the probability to get a stable job, while gender does not seem so relevant in Spain where, once controlling for search behaviour, women have actually a slight higher probability than men to find a permanent job.

Holding other factors constant, age seems to have a marginal effect in both countries, which are both characterized by a sort of relatively flat parabolic relation between transition probabilities and age, reaching its peak for individuals aged 33-34 in Italy, 30-31 in Spain. With respect to the youngest workers, in Spain the probability of transition is particularly low for both 40-49 years old workers and for those aged 50 and older, while in Italy only the oldest temporary workers are less mobile towards stable employment than the youngest.

Education appears more important than age in influencing (positively) transition probabilities, but this effect is much more relevant and statistically significant in Spain rather than in Italy.

As far as family characteristics are concerned, the role of individuals within the family seems more important than the size of the family itself to explain heterogeneity in

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[9] Recall that the dependent variable is a dummy equal to 1 if the individual holds a permanent job one year later, 0 otherwise.

transition probabilities. Both spouses and children are in fact less likely to get a stable job that the head of the family, but the lower transition probabilities for the sons/daughters is statistically significant only in Spain.

Turning to local labour market characteristics, regional unemployment rate has a substantial negative effect on transition probability both in Italy and in Spain, but its marginal effect is larger in Italy than in Spain (around 0.6 in the first, 0.33 in the second).

Finally, estimates related to job searching behaviour largely confirm that the probability of transition to stable employment is lower for workers searching for a new job, regardless of their willingness to accept any type of job. Furthermore, the probability of transition declines with the duration of job search, with a steeper effect in Italy than in Spain.

Table 7 reports the main results obtained focussing only in temporary employees, controlling also for job characteristics. Estimates on this restricted sample show that, *coeteris paribus*, involuntary workers do not significantly differ from other temporary employees in terms of transition probabilities to stable jobs.

Furthermore, gender differences are now much more relevant in Spain than in Italy, since it's only in the first country that women on temporary contract are less likely to get stable jobs than men.

In the case of Italy personal characteristics are overall less relevant and significant than in the previous estimates, while in Spain both education and family structure are still important in affecting transition probabilities and the results are in line with what we found before.

Among job characteristics, the economic sector seems to play a crucial role: in both countries the probability of transition is much lower in agriculture, construction and social/personal services rather than in manufacturing and traditional services. Furthermore, working part-time reduces the probability of transition by around 10% in Italy, 2% in Spain.

Other working conditions, in particular working at night, are still relevant in Italy, while their effect is no statistically significant in Spain. This result may be due to the difficulty to find the right workers for (or to retain them in) "unpleasant" jobs (in terms of working time or conditions): in this case firms are more likely to transform fixed-term contracts into permanent ones in order to reduce turnover and to keep the most productive workers (Rosen, 1974).

Another interesting result is related to the effect of temporary contract duration and job searching behaviour. While the probability to get a stable job increases with contract duration, it is negatively influenced by job searching duration. In general, as in the previous estimates, searching for a new job is negatively correlated with the probability of transition, probably because temporary workers who know that their current employer is very likely to hire them on a permanent basis at the end of the temporary contract are also less likely to search for another job.

Table 8 and 9 report some of the estimates discussed above taking into account of the potential initial condition bias. Estimates are referred to the bivariate probit model presented in section 4. The model has been estimated using the incidence of temporary

employment by region and skill at the beginning of the period as identifying restriction[10]. For the sake of comparison, we also reported the corresponding probit estimates (i.e., assuming exogeneity of the initial condition).

When we control for the endogeneity of the initial condition, results are not clear-cut and they quite differ according to the country considered. In fact in Spain the initial condition looks truly exogenous (the rho coefficient is very small and not statistically significant). On the contrary, some estimates in the case of Italy seems to suggest that the temporary employees are not more likely than the unemployed to get a stable job once we take into account of the correlation existing between the unobservables affecting both the initial state and subsequent transition probabilities. This correlation is positive and statistically significant, meaning that some unobservable factors influencing the probability of become a temporary worker (instead of remaining unemployed) increase also the probability of getting a stable job. In other words, temporary workers are from the beginning "stronger" than the unemployed and for this reason, rather than for the temporary work experience itself, are more likely to get a permanent job. However, endogeneity of the initial state is no more relevant if we control also for searching behaviour, probably because the latter is somehow correlated with other relevant unobservable factors (such as motivation, active role in the labour market, etc.). Once controlling for searching behaviour, the rho coefficient is no longer statistically significant and the temporary work experience still positively influences the probability to get a job. Further research is anyway needed on this aspect, given the potential endogeneity of searching behaviour discussed above.

7. Concluding remarks

This paper was aimed at studying the transitions of temporary workers to stable employment, highlighting whether temporary work experience could help escaping unemployment and prevent long-term unemployment. In light of the heterogeneity within temporary workers, specific attention has been paid to the transitions of the so-called involuntary temporary workers (i.e., those working on temporary contracts because they could not find any permanent jobs), comparing their performance with both other temporary employees and the unemployed.

Empirical analysis has been focused on Italy and Spain, two countries that socio-economic research traditionally classifies among the so called "Southern" or "Mediterranean" countries, characterized by tight labour market regulation and relatively low general benefits, with rather extended family networks and low female participation rates, as well as significant internal regional differences.

Both these two countries have however recently experienced labour market de-regulation processes, although with varying degrees and timing, with a stronger emphasis on the use of fixed-term contracts in Spain rather than in Italy. Despite of their institutional similarity, Italy and Spain have then been implementing quite different

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[10] We obtained similar estimates using the change in the incidence of temporary employment from period t-2 to t-1 or relying on the functional form of the bivariate probit model. Results are available upon request.

policies for temporary employment, producing quite different effects on national labour market stocks and flows.

In terms of mobility of the unemployed and temporary employees, the empirical analysis actually reveals two different models. In Italy the unemployed are less likely to find a job than in Spain, but Italian unemployed are more likely to get a stable job than a temporary one. Furthermore, temporary employees in Italy are characterized by a significant probability to get a stable job and a relatively low probability to fall into unemployment. On the contrary in Spain the unemployed are more likely to find temporary jobs rather than remaining unemployed, but once there they seem to be stuck. Furthermore, Spanish temporary employees seems more likely to become unemployed rather than to get a stable job.

Econometric estimates point out that temporary workers in both countries are actually more likely to get a stable job than the unemployed, while no significant differences seem to emerge between involuntary and other temporary employees. Nonetheless, the marginal effect of temporary work experience (holding other factors constant) is much higher in Italy than in Spain (0.25 vs 0.03). Furthermore, the positive effect of temporary work experience may be lower if endogeneity of the initial condition is taken into account, suggesting that temporary workers are from the beginning "stronger" than the unemployed and for this reason, rather than for the temporary work experience itself, they are more likely to get a permanent job.

In terms of policy implications, the comparative analysis points out that public support to temporary employment in Spain actually helped to exit unemployment, but temporary workers find then quite difficult to make a further step towards permanent employment. It might be interesting to understand whether this result is due to pure incentive effects (i.e., policy support and subsidies making temporary employment relatively less costly) or also to labour demand effects (i.e., production constraints preventing from permanently absorb all the temporary workforce, regardless of its cost). On the other side, the Italian model shows a more fluid situation for temporary employment, but still relevant problems of unemployment persistency, despite of recent reforms supporting flexible and temporary contracts.

A crucial policy issue should at this point be concerned with the combination of the positive effects of the two Southern models. Is it possible to use (or to incentive the use of) temporary employment to reduce unemployment, preventing the creation of a dual labour market between permanent and temporary workers? Is there a trade-off between unemployment persistency and temporary employment rigidity?

Current empirical evidence seem to provide a negative answer to the questions above, but more research and policy efforts are needed in order to make the Southern regime better-off in terms of "flexicurity" and labour market mobility.

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Figure 1

Incidence of temporary employment, Italy, 1993-2003

Incidence of temporary employment, Spain, 1993-2003

Incidence o involuntary workers among temporary employment, Italy, 1993-2003

Incidence o involuntary workers among temporary employment, Spain, 1993-2003
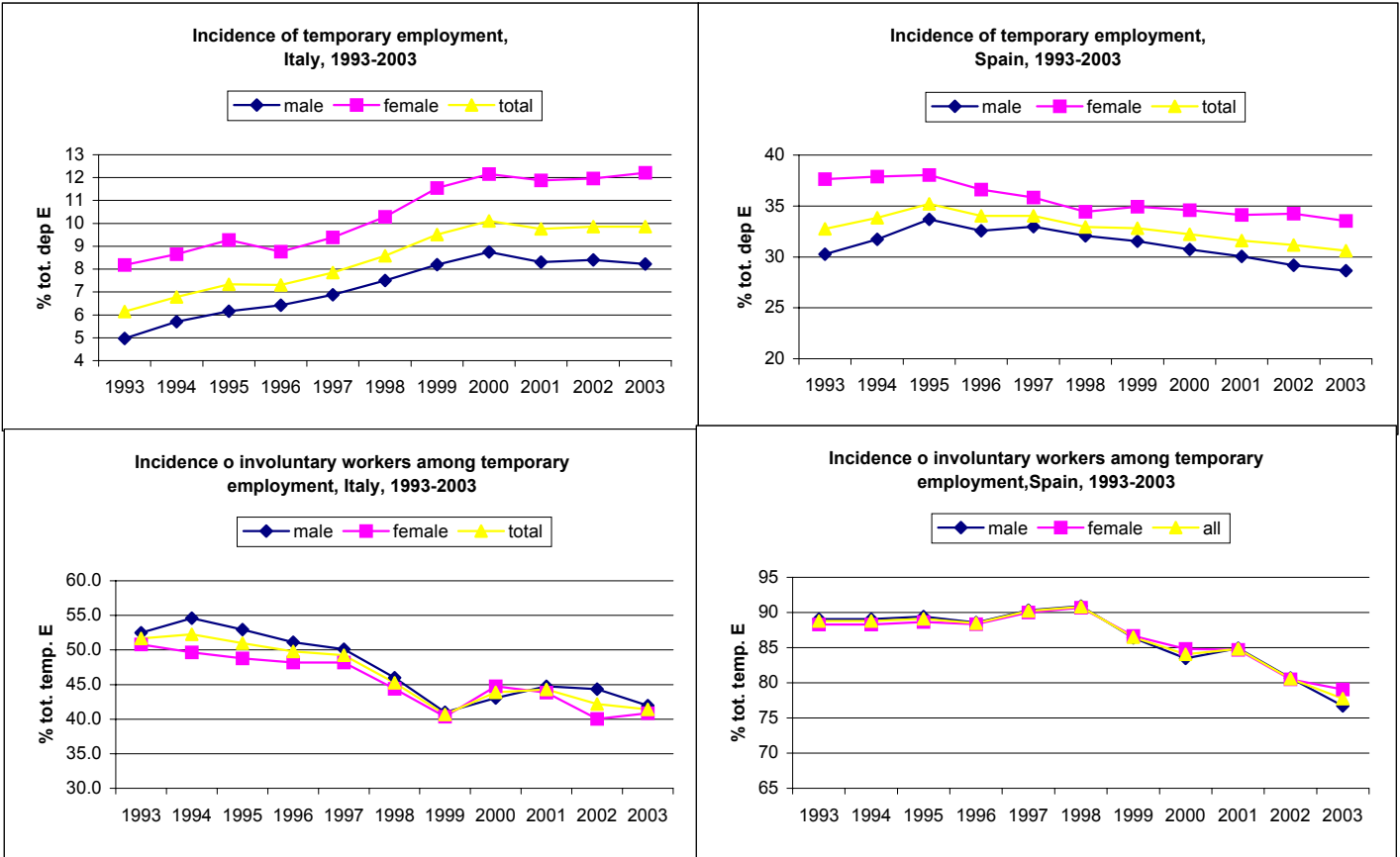
Table 1

Labour Force Survey: main features

	Italy	Spain
Frequency of the results	quarterly	quarterly
Reference week	one in each quarter	evenly spread
Sample unit	household	dwelling
overall sample rate	0.36%	0.50%
Size of the sample (n. households)	75512	65000
Stratification	yes	yes
Stratifying variables	region, urbanisation	region, urbanisation, socio economic status
Rotation scheme	2 in 2 out 2 in	6 waves

Longitudinal data, 2000-2002

	Italy	Spain
N. individuals	137364	
N. Unemployed (U)	6794	
N. temporary employees (T)	4181	
N. total obs. (U+T)	10975	
N. involuntary temporary employees	1869	
N. other temporary employees	2312	

Table 2
Raw transition probabilities

ITALY

| | Condition at t (row percentages) | | | | |
	Stable E	Temporary E	U	OLF	Total
Initial state at t-1:					
Unemployed					
all	12.6	7.6	51.6	28.2	100
2000	12.8	7.4	50.4	29.3	100
2001	12.4	7.8	52.9	26.8	100
Temporary employees					
all	40.5	43.9	6.2	9.4	100
2000	43.2	41.9	5.7	9.2	100
2001	37.7	45.9	6.8	9.5	100

SPAIN

| | Condition at t (row percentages) | | | | |
	Stable E	Temporary E	U	OLF	Total
Initial state at t-1:					
Unemployed					
all	9.0	39.2	31.1	20.8	100
2000	6.9	34.1	37.2	21.8	100
2001	9.0	39.0	31.5	20.6	100
2002	8.9	40.5	29.6	20.9	100
2003	11.4	42.7	26.2	19.8	100
Temporary employees					
all	12.8	51.6	19.7	15.9	100
2000	14.1	58.2	15.7	12.1	100
2001	12.9	52.2	19.6	15.3	100
2002	12.8	50.8	19.9	16.6	100
2003	11.4	45.4	23.7	19.4	100

Table 3a
Raw probabilities of transitions to stable employment by initial state and personal characteristics

	ITALY				SPAIN				
	Unempl.	Temporary workers		Others	Unempl.	Temporary workers		Others	
		All	Involuntary			All	Involuntary		
Total	12.6	40.5	37.5	43.0	9.0	12.8	12.8	12.8	
By sex:									
Males	17.0	42.5	38.5	45.9	8.8	12.6	12.5	12.7	
Females	9.0	38.5	36.3	40.2	9.1	13.1	13.1	13.0	
By age group:									
up to 24	10.3	42.5	36.4	44.4	8.9	13.2	13.4	12.3	
24-29	16.2	42.8	38.7	45.7	9.1	13.4	13.3	13.8	
30-39	13.9	38.7	36.1	41.6	8.8	12.4	12.5	12.2	
40-49	12.1	42.0	41.7	42.5	9.7	12.5	12.3	13.2	
50 and over	9.4	34.2	32.7	36.1	8.1	11.5	11.0	13.0	
By education level									
low (up to lower secondary)	11.8	38.3	34.4	42.6	6.9	9.2	9.0	10.4	without
medium (high secondary)	12.6	41.7	40.4	42.5	8.2	11.1	10.6	13.0	elementary
high (university degree or more)	19.5	44.7	43.3	45.6	8.8	12.8	13.0	12.0	lower-secondary
					9.4	13.9	14.3	12.7	high-secondary
					9.7	13.8	13.8	14.0	further-training
					10.0	13.9	13.9	13.9	high-education
By civil status									
single	13.4	42.1	38.0	44.3	9.1	13.1	13.2	12.7	
married	11.7	38.8	37.2	40.8	8.7	12.5	12.4	13.0	
other (divorced, widow,…)	10.3	41.6	36.2	48.2	9.5	12.2	11.9	13.2	
By family role									
head of the family	16.3	41.0	38.0	44.7	9.9	12.7	12.6	13.1	
spouse	7.9	35.8	35.9	35.7	8.3	12.4	12.4	12.6	
son/daughter	13.1	42.3	36.9	45.1	8.9	13.2	13.2	12.9	
other relative	13.9	45.2	50.9	40.0	8.7	11.3	11.3	11.6	
By family size (n. people)									
one	16.1	43.7	40.9	46.1					
two	13.1	42.6	41.9	43.3					
three or four	12.6	39.5	36.4	42.0					
five or more	11.9	41.5	36.3	45.4					
By searching conditions									
Not searching	-	44.6	43.7	45.2	12.0	13.0	13.0	13.0	
Searching any jobs	11.4	30.5	30.3	30.8	8.3	10.4	10.4	10.6	
Searching with some restrictions	12.0	33.2	29.3	38.2	9.2	11.4	11.6	9.7	

Table 3b
Raw probabilities of transitions by job characteristics, only temporary employees

	ITALY			SPAIN			
	All	Involuntary	Others	All	Involuntary	Others	
By economic sector							
Agriculture	20.6	18.6	24.4	8.2	8.1	8.4	Agriculture
Mining	28.6	40.0	22.0	10.3	10.2	10.8	Construction
Manufacturing	50.9	51.3	50.7	17.3	17.9	14.8	Mining and energy
Construction	44.1	38.5	54.6	13.7	14.1	11.6	Chemicals, rubber and plastic
Trade	53.0	51.0	54.2	14.6	14.6	14.6	Machinery and equipment
Hotels	33.6	32.7	34.3	14.3	14.5	13.4	Food, textiles and wood
Transportation	46.8	41.8	50.0	15.6	15.7	15.3	Traditional services
Finance	57.4	30.0	62.8	14.4	14.3	14.8	Productive services
Business services	48.4	50.0	47.7	11.6	11.5	12.1	Social services
Social services	39.7	43.7	35.7	12.7	12.5	13.0	Personal services
Personal services	38.9	32.3	43.9	10.9	10.7	11.5	Public services
Public sector	31.5	29.7	32.6				
By skill							
high skilled white collars	44.4	44.2	44.6	13.9	14.0	13.6	
low skilled white collars	43.5	42.4	44.2	14.3	14.4	13.8	
high skilled blue collars	39.4	35.3	44.3	12.2	12.2	12.3	
low skilled blue collars	34.5	30.6	38.9	11.6	11.5	11.8	
By working time							
part-time	31.8	31.1	32.7	11.8	11.6	12.4	
full-time	45.0	42.0	47.1	13.0	13.0	12.9	
By contract duration							
less than 1 month	33.7	29.0	41.7	11.8	11.8	11.9	
1-6 months	36.7	33.7	40.0	13.5	13.6	13.3	
7-12 months	36.2	37.0	35.5	12.9	13.0	12.4	
one year ore more	44.5	35.4	47.4	12.6	12.4	13.2	
not specified	44.1	42.6	45.7				
By working conditions							
shifts	47.1	42.4	50.3	12.7	12.6	12.8	
work at night	49.9	51.1	49.1	12.9	12.8	13.3	
work during week-ends	40.0	36.7	43.0	12.7	12.7	12.5	

Table 4
Average characteristics by initial state, Unemployed and temporary employees

	ITALY				SPAIN		
	Unempl.	Temporary workers		Others	Unempl.	Temporary workers	Others
		All Involuntary				All Involuntary	
%							
By sex:							
Males	45.9	50.4	51.8	49.3			
Females	54.1	49.6	48.2	50.7			
Bu age group:							
up to 24	30.4	23.3	12.4	32.1			
24-29	19.8	19.9	18.0	21.5			
30-39	27.3	28.3	33.4	24.1			
40-49	13.8	17.9	22.8	13.9			
50 and over	8.6	10.7	13.5	8.4			
Average age	31.7	33.8	36.5	31.6			
By education level							
low	54.3	47.0	54.8	40.7			
medium	39.3	39.1	32.5	44.5			
high	6.4	13.9	12.7	14.8			
Average years of schooling	10.0	10.7	10.1	11.2			
By civil status							
single	58.7	50.2	39.7	58.7			
married	37.5	46.8	56.6	38.8			
other (divorced, widow,…)	3.9	3.0	3.7	2.4			
By family role							
head of the family	21.9	30.9	37.9	25.2			
spouse	22.6	22.5	25.5	20.0			
son/daughter	52.6	43.9	33.7	52.3			
other relative	3.0	2.8	2.9	2.6			
By family size (n. people)							
one	4.3	5.7	5.9	5.5			
two	11.7	13.8	14.6	13.2			
three or four	61.5	63.4	62.9	63.8			
five or more	22.5	17.1	16.6	17.4			
By searching conditions							
Not searching	-	64.9	56.0	72.2			

Table 5

Probability of transitions to stable employment, unemployed and temporary employees
Exogeneity of initial state

	ITALY								SPAIN								
	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	
temp	**0.95**	**31.1**	**0.95**	**31.0**	**0.95**	**31.0**	**0.77**	**19.7**	**0.19**	**25.09**	**0.19**	**24.60**	**0.1913**	**24.6**	**0.1231**	**7.62**	
female	-0.27	-8.8	-0.22	-6.1	-0.22	-6.2	-0.2132	-5.92	-0.01	-0.93	0.01	1.81	0.02	1.88	0.02	2.75	
age2529	0.12	2.7	0.12	2.7					0.02	1.98	0.02	1.61					
age3039	0.04	0.7	0.04	0.8					-0.02	-1.69	-0.03	-2.52					
age4049	0.07	1.3	0.07	1.2					0.02	1.48	0.00	0.20					
age50	-0.16	-2.4	-0.18	-2.4					-0.03	-1.66	-0.05	-3.00					
age					0.03	3.6	0.04	4.2					0.00	1.79	0.00	1.66	
age2					-0.0005	-4.0	-0.001	-4.8					0.00	-2.17	0.00	-2.02	
2 family members	-0.08	-1.1	-0.06	-0.7	-0.06	-0.7	-0.04	-0.5									
3-4 family members	-0.11	-1.6	-0.08	-1.1	-0.08	-1.1	-0.07	-0.9									
5 or more family members	-0.02	-0.2	0.01	0.2	0.02	0.3	0.03	0.4									
married	0.03	0.6	0.04	1.0	0.03	0.8	0.02	0.5	0.02	1.74	0.02	1.61	0.02	1.25	0.01	0.99	
spouse			-0.14	-2.7	-0.15	-2.8	-0.16	-2.9			-0.08	-6.40	-0.08	-6.39	-0.08	-6.45	
son			-0.05	-0.9	-0.04	-0.7	-0.03	-0.6			-0.05	-3.88	-0.04	-3.22	-0.04	-3.06	
other relative			-0.04	-0.5	-0.03	-0.3	-0.04	-0.4			-0.09	-4.86	-0.08	-4.60	-0.08	-4.34	
mid-educ	0.03	1.0	0.04	1.1			0.03	1.0	0.06	3.39	0.06	3.45	0.06	3.44	0.06	3.29	**elementary**
high-educ	0.08	1.6	0.08	1.6			0.08	1.4	0.13	7.10	0.13	7.17	0.13	7.03	0.12	6.75	**lower-secondary**
									0.15	7.32	0.15	7.36	0.15	7.25	0.15	7.10	**high-secondary**
									0.16	8.22	0.16	8.27	0.16	8.09	0.15	7.74	**further-training**
									0.16	8.02	0.16	7.98	0.15	7.81	0.15	7.64	**high-education**
years of schooling					0.01	2.0											
u_reg	-2.68	-14.1	-2.71	-14.2	-2.72	-14.2	-2.55	-13.2									
year0102	-0.10	-3.4	-0.10	-3.4	-0.10	-3.4	-0.11	-3.6	-0.02	-23.48	-0.02	-23.60	-0.02	-23.64	-0.02	-22.68	
									-0.05	-5.08	-0.05	-5.08	-0.05	-5.11	-0.05	-5.06	**2001**
									-0.03	-3.30	-0.03	-3.29	-0.04	-3.31	-0.04	-3.34	**2002**
									-0.03	-2.72	-0.03	-2.71	-0.03	-2.72	-0.04	-2.98	**2003**
searching any jobs							-0.35	-6.0							-0.09	-5.76	
searching with restr.							-0.29	-7.2							-0.08	-4.35	
_cons	-0.75	-9.1	-0.75	-8.7	-1.32	-6.9	-1.09	-5.6	-1.22	-49.26	-1.17	-43.01	-1.24	-26.51	-1.16	-23.59	
LogL	-4633.4		-4628.8		-4630.8		-4602.4		-79109		-79081		-79092		-77167		
psuedo R2	14.8		14.9		14.9		15.4		0.0107		0.011		0.0109		0.0115		
Chi2 (d.f.)	1608.1		1617.2		1613.3		1670.1		1708.6		1764.8		1743.5		1791.8		
Prob>chi2	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		
N. obs	10975		10975		10975		10975		228233		228233		228233		222957		

Table 6

Probability of transitions to stable employment, unemployed, involuntary temps and other temporary employees
Exogeneity of initial state

	ITALY								SPAIN								
	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	
involuntary temps	**0.91**	**23.7**	**0.91**	**23.7**	**0.75**	**17.2**	**0.72**	**16.1**	**0.19**	**23.79**	**0.19**	**23.78**	**0.12**	**7.61**	**0.13**	**7.89**	
other temps	**0.98**	**27.4**	**0.98**	**27.4**	**0.79**	**17.6**	**0.76**	**16.7**	**0.19**	**16.61**	**0.19**	**16.62**	**0.12**	**6.48**	**0.12**	**6.73**	
female	-0.22	-6.1	-0.22	-6.2	-0.21	-5.9	-0.20	-5.5	0.01	1.81	0.02	1.88	0.02	2.74	0.02	2.8	
age2529	0.13	2.8							0.02	1.60							
age3039	0.05	1.0							-0.03	-2.52							
age4049	0.08	1.4							0.00	0.20							
age50	-0.17	-2.3							-0.05	-3.00							
age			0.04	3.8	0.04	4.3	0.04	4.5			0.00	1.79	0.00	1.65	0.00	1.79	
age2			-0.001	-4.2	-0.001	-4.9	-0.001	-5.0			0.00	-2.17	0.00	-2.01	0.00	-2.09	
2 family members	-0.06	-0.7	-0.06	-0.7	-0.04	-0.5	-0.04	-0.5									
3-4 family members	-0.08	-1.1	-0.08	-1.1	-0.07	-0.9	-0.07	-0.9									
5 or more family members	0.01	0.2	0.02	0.3	0.03	0.4	0.04	0.4									
married	0.04	1.0	0.03	0.8	0.02	0.5	0.02	0.4	0.02	1.61	0.02	1.25	0.01	0.99	0.01	1.03	
spouse	-0.14	-2.7	-0.15	-2.8	-0.16	-2.9	-0.15	-2.9	-0.08	-6.40	-0.08	-6.39	-0.08	-6.44	-0.08	-6.4	
son	-0.05	-0.9	-0.04	-0.7	-0.03	-0.6	-0.03	-0.6	-0.05	-3.88	-0.04	-3.22	-0.04	-3.06	-0.04	-2.9	
other relative	-0.04	-0.4	-0.03	-0.3	-0.04	-0.4	-0.03	-0.4	-0.09	-4.86	-0.08	-4.60	-0.08	-4.34	-0.08	-4.29	
mid-educ	0.03	1.0			0.03	1.0	0.04	1.1	0.06	3.45	0.06	3.44	0.06	3.29	0.06	3.31	**elementary**
high-educ	0.08	1.5			0.07	1.4	0.07	1.3	0.13	7.17	0.13	7.03	0.12	6.75	0.12	6.8	**lower-secondary**
									0.15	7.36	0.15	7.25	0.15	7.1	0.15	7.18	**high-secondary**
									0.16	8.27	0.16	8.09	0.15	7.74	0.15	7.81	**further-training**
									0.16	7.98	0.15	7.81	0.15	7.64	0.15	7.75	**high-education**
years of schooling	-	-	0.01	1.9													
u_reg	-2.67	-13.8	-2.68	-13.8	-2.53	-13.0	-2.34	-11.8	-0.02	-23.57	-0.02	-23.61	-0.02	-22.66	-0.02	-22.67	
year0102	-0.10	-3.3	-0.10	-3.3	-0.11	-3.6	-0.11	-3.7	-0.05	-5.08	-0.05	-5.11	-0.05	-5.06	-0.06	-5.09	**2001**
									-0.03	-3.29	-0.04	-3.31	-0.04	-3.33	-0.04	-3.46	**2002**
									-0.03	-2.71	-0.03	-2.72	-0.04	-2.97	-0.04	-3.06	**2003**
searching any jobs					-0.34	-5.9							-0.09	-5.77			
searching with restr.					-0.29	-7.1							-0.08	-4.36			
searching for less than 1 month							-0.11	-1.7							-0.08	-3.52	
searching for 2-5 months							-0.14	-2.4							-0.08	-4.09	
searching for 6-11 months							-0.25	-4.0							-0.07	-3.55	
searching for 12 months or more							-0.43	-9.5							-0.11	-6.64	
_cons	-0.77	-8.8	-1.36	-7.09	-1.11	-5.67	-1.15	-5.8	-1.17	-43.01	-1.24	-26.50	-1.16	-23.55	-1.17	-23.72	
LogL	-4628.2		-4929.2		-4602.1		-4581.0		-79081		-79092		-77167		-77071		
psuedo R2	14.9		14.9		15.4		15.8		0.011		0.0109		0.0115		0.0115		
Chi2 (d.f.)	1618.5		1616.5		1670.7		1712.8		1764.8		1743.5		1791.9		1796.5		
Prob>chi2	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		
N. obs	10975		10975.0		10975		10975		228233		228233		222957		222742		

Table 7

Probability of transitions to stable employment, involuntary temps and other temporary employees
Exogeneity of initial state

	ITALY						SPAIN						
	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	
involuntary	**0.01**	**0.2**	**0.001**	**0.03**	**0.002**	**0.04**	**0.00**	**-0.08**	-0.03	-1.34	-0.03	-1.46	
female	-0.07	-1.3	-0.05	-1.0	-0.05	-1.0	-0.02	-2.04	-0.04	-2.03	-0.04	-1.96	
age2529	0.05	0.8					0.02	1.49					
age3039	0.08	1.0					-0.01	-1.00					
age4049	0.19	2.2					0.03	1.62					
age50	0.00	0.0					-0.01	-0.64	0.01	1.56			
age			0.04	3.1	0.04	3.1			0.00	-1.53	0.01	1.58	
age2			-0.001	-3.0	-0.001	-3.0					0.00	-1.53	
2 family members	-0.05	-0.5	-0.05	-0.5	-0.06	-0.5							
3-4 family members	-0.09	-0.9	-0.07	-0.7	-0.08	-0.8							
5 or more family members	0.02	0.2	0.06	0.5	0.05	0.4							
married	0.09	1.4	0.07	1.2	0.07	1.2	0.04	3.09	0.04	1.43	0.04	1.53	
spouse	-0.11	-1.5	-0.11	-1.6	-0.11	-1.6	-0.06	-4.16	-0.05	-1.86	-0.05	-1.87	
son	-0.09	-1.2	-0.08	-1.1	-0.08	-1.1	-0.03	-1.88	-0.01	-0.43	-0.01	-0.26	
other relative	-0.02	-0.1	-0.02	-0.2	-0.03	-0.2	-0.08	-3.73	-0.05	-1.46	-0.05	-1.41	
mid-educ	-0.01	-0.1			-0.02	-0.3	0.03	1.23	0.01	0.32	0.01	0.27	**elementary**
high-educ	0.02	0.2			0.00	0.0	0.10	4.18	0.09	2.28	0.09	2.24	**lower-secondary**
							0.09	3.53	0.05	1.19	0.05	1.18	**high-secondary**
							0.11	4.55	0.09	2.16	0.09	2.14	**further-training**
							0.14	5.10	0.12	2.55	0.13	2.58	**high-education**
years of schooling			0.002	0.2									
partime	-0.30	-6.3	-0.29	-6.1	-0.29	-6.0	-0.06	-4.59	-0.06	-2.36	-0.06	-2.46	
agr	-0.85	-8.9	-0.79	-8.1	-0.80	-8.2	0.02	0.99	0.02	0.44	0.02	0.49	**Construction**
mining	-0.70	-2.6	-0.68	-2.5	-0.68	-2.5	0.25	5.08	0.21	2.38	0.21	2.39	**Mining and energy**
build	-0.24	-2.6	-0.19	-2.1	-0.19	-2.1	0.19	6.57	0.20	4.02	0.20	4.01	**Chemicals, rubber and plastic**
trade	-0.01	-0.1	0.01	0.1	0.01	0.1	0.22	7.21	0.22	4.14	0.22	4.11	**Machinery and equipment**
hotel	-0.51	-4.8	-0.54	-4.9	-0.54	-4.9	0.25	10.00	0.23	5.49	0.24	5.52	**Food, textiles and wood**
transp	-0.13	-1.1	-0.15	-1.3	-0.15	-1.3	0.28	12.55	0.26	6.77	0.26	6.80	**Traditional services**
finance	0.05	0.3	0.09	0.5	0.08	0.5	0.22	8.64	0.19	4.53	0.20	4.58	**Productive services**
business	-0.12	-1.2	-0.10	-1.0	-0.10	-1.0	0.07	2.81	0.05	1.03	0.04	0.94	**Social services**
public	-0.53	-5.9	-0.51	-5.6	-0.51	-5.6	0.20	7.79	0.18	4.08	0.18	4.07	**Personal services**
social	-0.33	-3.9	-0.32	-3.8	-0.32	-3.8	0.04	1.43	0.04	0.76	0.03	0.69	**Public services**
personal	-0.36	-3.8	-0.33	-3.4	-0.33	-3.4							
hskill_wc	0.12	1.7	0.13	1.7	0.14	1.9	-0.01	-0.79	0.00	-0.03	0.00	-0.11	
lskill_wc	0.15	2.2	0.13	2.0	0.14	2.1	-0.03	-1.82	-0.08	-2.32	-0.08	-2.37	
hskill_bc	-0.13	-1.8	-0.11	-1.6	-0.10	-1.5	-0.03	-1.99	-0.06	-1.93	-0.06	-1.94	
dur2	0.17	1.2	0.17	1.1	0.17	1.2	0.06	5.45	0.04	2.23	0.04	2.15	
dur3	0.08	0.6	0.09	0.6	0.10	0.6	0.07	4.82	0.04	1.48	0.03	1.38	
dur4	0.21	1.4	0.22	1.5	0.22	1.5	0.09	6.82	0.08	3.70	0.08	3.56	
dur5	0.26	1.8	0.27	1.9	0.28	1.9							
working on shift			0.10	1.7	0.10	1.7			0.04	1.66	0.04	1.73	
working at night			0.19	2.9	0.19	2.9			-0.04	-1.41	-0.04	-1.34	
working during weekends			-0.02	-0.4	-0.02	-0.5			-0.03	-1.36	-0.03	-1.30	
searching any jobs	-0.27	-2.5	-0.28	-2.7			-0.07	-3.36	-0.05	-1.58			
searching with restr.	-0.22	-4.7	-0.23	-4.8			-0.08	-3.23	-0.06	-1.58			
searching for less than 1 month					-0.11	-1.5					0.01	0.06	
searching for 2-5 months					-0.31	-2.9					-0.15	-2.71	
searching for 6-11 months					-0.31	-2.8					-0.11	-1.67	
searching for 12 months or more					-0.26	-4.5					-0.04	-1.04	
u_reg	-1.09	-3.8	-1.21	-4.2	-1.23	-4.2	-0.02	-16.66	-0.02	-9.79	-0.02	-9.70	**2001**
year0102	-0.15	-3.7	-0.15	-3.6	-0.16	-3.8	-0.10	-7.88	-0.17	-5.01	-0.17	-4.96	**2002**
							-0.09	-6.74	-0.16	-4.42	-0.16	-4.46	**2003**
							-0.15	-9.88	-0.23	-6.23	-0.23	-6.22	
_cons	0.15	0.8	-0.65	-2.1	-0.62	-2.0	-1.11	-26.65	-1.06	-9.19	-1.06	-9.21	
LogL	-2584.5		-2575.9		-2573.9		-55489		-18087		-18038		
psuedo R2	6.4		6.8		6.8		0.0121		0.0128		0.0131		
Chi2 (d.f.)	335.9		373.1		377.1		1355.51		470.19		477.8		
Prob>chi2	0.0		0.0		0.0		0.0		0.0		0.0		
N. obs	4181.0		4181.0		4181.0		148456		48246		48169		

Note: the different sample size between the two countries is mainly due to the different number of quarters and years available since the beginning of the period considered

Table 8

Probability of transitions to stable employment, unemployed and temporary employees
Endogeneity of initial state

	ITALY								SPAIN								
	Probit		Biv. Probit		Probit		Biv. Probit		Probit		Biv. Probit		Probit		Biv. Probit		
	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	Coeff.	z	
temp	**0.95**	**31.0**	**0.08**	**0.4**	**0.77**	**19.7**	**0.64**	**3.2**	**0.19**	**24.60**	**0.06**	**0.67**	**0.1231**	**7.62**	**0.13**	**1.34**	
female	-0.22	-6.1	-0.26	-7.5	-0.2132	-5.92	-0.22	-6.0	0.01	1.81	0.00	-0.06	0.02	2.75	0.02	2.71	
age2529	0.12	2.7	0.12	2.8					0.02	1.61	0.02	1.79					
age3039	0.04	0.8	0.05	1.0					-0.03	-2.52	-0.03	-2.69					
age4049	0.07	1.2	0.08	1.4					0.00	0.20	-0.01	-0.41					
age50	-0.18	-2.4	-0.15	-2.1					-0.05	-3.00	-0.07	-3.24					
age					0.04	4.2	0.04	4.3					0.00	1.66	0.00	1.64	
age2					-0.001	-4.8	-0.001	-4.8					0.00	-2.02	0.00	-1.98	
2 family members	-0.06	-0.7	-0.07	-0.9	-0.04	-0.5	-0.04	-0.5									
3-4 family members	-0.08	-1.1	-0.09	-1.3	-0.07	-0.9	-0.06	-0.9									
5 or more family members	0.01	0.2	-0.003	-0.04	0.03	0.4	0.04	0.4									
married	0.04	1.0	0.14	2.9	0.02	0.5	0.03	0.7	0.02	1.61	0.02	1.74	0.01	0.99	0.01	0.98	
spouse	-0.14	-2.7	-0.21	-4.1	-0.16	-2.9	-0.17	-3.1	-0.08	-6.40	-0.09	-6.05	-0.08	-6.45	-0.08	-6.27	
son	-0.05	-0.9	-0.11	-2.2	-0.03	-0.6	-0.04	-0.7	-0.05	-3.88	-0.06	-4.10	-0.04	-3.06	-0.04	-3.02	
other relative	-0.04	-0.5	-0.12	-1.3	-0.04	-0.4	-0.04	-0.5	-0.09	-4.86	-0.09	-5.05	-0.08	-4.34	-0.08	-4.32	
mid-educ	0.04	1.1	0.09	2.7	0.03	1.0	0.04	1.1	0.06	3.45	0.06	3.51	0.06	3.29	0.06	3.29	**elementary**
high-educ	0.08	1.6	0.28	4.1	0.08	1.4	0.09	1.6	0.13	7.17	0.13	7.28	0.12	6.75	0.12	6.76	**lower-secondary**
									0.15	7.36	0.15	7.30	0.15	7.10	0.15	7.11	**high-secondary**
									0.16	8.27	0.16	8.42	0.15	7.74	0.15	7.76	**further-training**
									0.16	7.98	0.16	8.13	0.15	7.64	0.15	7.60	**high-education**
u_reg	-2.71	-14.2	-3.73	-14.4	-2.55	-13.2	-2.61	-12.2	-0.02	-23.60	-0.02	-15.52	-0.02	-22.68	-0.09	-1.08	
year0102	-0.10	-3.4	-0.08	-2.8	-0.11	-3.6	-0.11	-3.6	-0.05	-5.08	-0.05	-5.14	-0.05	-5.06	-0.08	-1.15	**2001**
									-0.03	-3.29	-0.03	-3.05	-0.04	-3.34	-0.02	-22.66	**2002**
									-0.03	-2.71	-0.03	-2.52	-0.04	-2.98	-0.05	-5.06	**2003**
searching any jobs					-0.35	-6.0	-0.45	-2.8					-0.09	-5.76	-0.04	-3.34	
searching with restr.					-0.29	-7.2	-0.38	-2.7					-0.08	-4.35	-0.04	-2.96	
_cons	-0.75	-8.7	-0.21	-1.4	-1.09	-5.6	-0.99	-3.9	-1.17	-43.01	-1.05	-11.62	-1.16	-23.59	-1.17	-11.40	
rho			0.49	3.8			0.1	0.5			0.08	0.05			-0.002	0.053	
LogL	-4628.8		-11345.8		-4602.4		-9024.2		-79081		-220642		-77167		-112432.76		
Chi2 (d.f.)	1617.2		1390.9		1670.1		4839.0		1764.8		12872.8		1791.8		1920638.22		
Prob>chi2	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		
N. obs	10975		10975		10975		10975		228233		228233		222957		222957		

Note: the different sample size between the two countries is mainly due to the different number of quarters and years available since the beginning of the period considered

Table 9

Probability of transitions to stable employment, involuntary temps and other temporary employees
Endogeneity of initial state

	ITALY								SPAIN								
	Probit		Biv. Probit		Probit		Biv. Probit		Probit		Biv. Probit		Probit		Biv. Probit		
involuntary	0.01	0.2	-0.65	-1.9	0.002	0.04	-0.81	-2.7	0.00	-0.08	0.34	1.54	-0.03	-1.46	0.51	1.28	
female	-0.07	-1.3	-0.06	-1.1	-0.05	-1.0	-0.04	-0.8	-0.02	-2.04	-0.03	-2.52	-0.04	-1.96	-0.05	-2.34	
age2529	0.05	0.8	0.13	1.7					0.02	1.49	0.01	0.46					
age3039	0.08	1.0	0.20	2.0					-0.01	-1.00	-0.02	-1.53					
age4049	0.19	2.2	0.33	3.0					0.03	1.62	0.02	1.42					
age50	0.00	0.0	0.13	1.1					-0.01	-0.64	-0.01	-0.43					
age					0.04	3.1	0.07	4.3					0.01	1.58	0.00	0.46	
age2					-0.001	-3.0	-0.001	-4.2					0.00	-1.53	0.00	-0.39	
2 family members	-0.05	-0.5	-0.03	-0.3	-0.06	-0.5	-0.02	-0.2									
3-4 family members	-0.09	-0.9	-0.07	-0.7	-0.08	-0.8	-0.05	-0.5									
5 or more family members	0.02	0.2	0.02	0.2	0.05	0.4	0.05	0.5									
married	0.09	1.4	0.07	1.2	0.07	1.2	0.05	0.8	0.04	3.09	0.05	3.28	0.04	1.53	0.05	1.76	
spouse	-0.11	-1.5	-0.11	-1.6	-0.11	-1.6	-0.11	-1.6	-0.06	-4.16	-0.06	-3.57	-0.05	-1.87	-0.04	-1.27	
son	-0.09	-1.2	-0.09	-1.3	-0.08	-1.1	-0.07	-1.0	-0.03	-1.88	-0.03	-1.68	-0.01	-0.26	-0.01	-0.25	
other relative	-0.02	-0.1	0.03	0.2	-0.03	-0.2	0.03	0.3	-0.08	-3.73	-0.08	-3.44	-0.05	-1.41	-0.04	-1.15	
mid-educ	-0.01	-0.1	-0.02	-0.3	-0.02	-0.3	-0.03	-0.6	0.03	1.23	0.03	1.23	0.01	0.27	0.01	0.32	**elementary**
high-educ	0.02	0.2	-0.01	-0.1	0.00	0.0	-0.02	-0.3	0.10	4.18	0.09	4.15	0.09	2.24	0.08	2.09	**lower-secondary**
									0.09	3.53	0.11	3.90	0.05	1.18	0.06	1.41	**high-secondary**
									0.11	4.55	0.10	3.90	0.09	2.14	0.08	1.67	**further-training**
									0.14	5.10	0.14	5.13	0.13	2.58	0.13	2.73	**high-education**
partime	-0.30	-6.3	-0.23	-3.5	-0.29	-6.0	-0.20	-3.1	-0.06	-4.59	-0.04	-1.59					
agr	-0.85	-8.9	-0.73	-5.8	-0.80	-8.2	-0.66	-5.4	0.02	0.99	0.02	0.89	-0.06	-2.46	-0.01	-0.30	**Construction**
mining	-0.70	-2.6	-0.69	-2.6	-0.68	-2.5	-0.65	-2.5	0.25	5.08	0.25	5.04	0.02	0.49	0.02	0.55	**Mining and energy**
build	-0.24	-2.6	-0.08	-0.6	-0.19	-2.1	0.00	0.0	0.19	6.57	0.17	5.39	0.21	2.39	0.22	2.52	**Chemicals, rubber and plastic**
trade	-0.01	-0.1	0.02	0.2	0.01	0.1	0.04	0.4	0.22	7.21	0.20	6.05	0.20	4.01	0.17	3.16	**Machinery and equipment**
hotel	-0.51	-4.8	-0.45	-4.0	-0.54	-4.9	-0.46	-4.0	0.25	10.00	0.23	8.52	0.22	4.11	0.20	3.46	**Food, textiles and wood**
transp	-0.13	-1.1	-0.12	-1.0	-0.15	-1.3	-0.14	-1.2	0.28	12.55	0.28	12.17	0.24	5.52	0.22	4.80	**Traditional services**
finance	0.05	0.3	-0.02	-0.1	0.08	0.5	-0.01	-0.1	0.22	8.64	0.20	7.67	0.26	6.80	0.25	6.64	**Productive services**
business	-0.12	-1.2	-0.13	-1.4	-0.10	-1.0	-0.11	-1.2	0.07	2.81	0.07	2.53	0.20	4.58	0.18	3.98	**Social services**
public	-0.53	-5.9	-0.55	-6.1	-0.51	-5.6	-0.53	-5.8	0.20	7.79	0.20	7.87	0.04	0.94	0.04	0.94	**Personal services**
social	-0.33	-3.9	-0.27	-2.9	-0.32	-3.8	-0.25	-2.7	0.04	1.43	0.05	1.73	0.18	4.07	0.19	4.20	**Public services**
personal	-0.36	-3.8	-0.32	-3.2	-0.33	-3.4	-0.28	-2.9					0.03	0.69	0.06	1.10	
hskill_wc	0.12	1.7	0.10	1.4	0.14	1.9	0.11	1.5	-0.01	-0.79	-0.02	-1.35					
lskill_wc	0.15	2.2	0.13	1.9	0.14	2.1	0.12	1.8	-0.03	-1.82	-0.05	-2.28	0.00	-0.11	-0.02	-0.64	
hskill_bc	-0.13	-1.8	-0.13	-2.0	-0.10	-1.5	-0.11	-1.6	-0.03	-1.99	-0.06	-2.46	-0.08	-2.37	-0.09	-2.73	
dur2	0.17	1.2	0.11	0.8	0.17	1.2	0.10	0.7	0.06	5.45	0.06	5.65	-0.06	-1.94	-0.09	-2.35	
dur3	0.08	0.6	0.00	0.0	0.10	0.6	0.00	0.0	0.07	4.82	0.08	5.00	0.04	2.15	0.05	2.50	
dur4	0.21	1.4	0.03	0.2	0.22	1.5	0.00	0.0	0.09	6.82	0.12	5.17	0.03	1.38	0.06	1.86	
dur5	0.26	1.8	0.18	1.3	0.28	1.9	0.18	1.3					0.08	3.56	0.14	2.81	
working on shift					0.10	1.7	-0.01	-0.2					0.04	1.73	0.03	0.96	
working at night					0.19	2.9	-0.19	-1.6					-0.04	-1.34	-0.03	-1.02	
working during weekends					-0.02	-0.5	-0.16	-1.3					-0.03	-1.30	-0.02	-0.67	
searching any jobs	-0.27	-2.5	-0.16	-1.4					-0.07	-3.36	-0.10	-3.32					
searching with restr.	-0.22	-4.7	-0.12	-1.7					-0.08	-3.23	-0.11	-3.40					
searching for less than 1 month					-0.11	-1.5	-0.13	-1.7					0.01	0.06	-0.04	-0.47	
searching for 2-5 months					-0.31	-2.9	0.10	1.7					-0.15	-2.71	-0.20	-2.99	
searching for 6-11 months					-0.31	-2.8	0.16	2.4					-0.11	-1.67	-0.16	-2.09	
searching for 12 months or more					-0.26	-4.5	0.00	0.1					-0.04	-1.04	-0.10	-1.58	
u_reg	-1.09	-3.8	-0.55	-1.3	-1.23	-4.2	-0.57	-1.4	-0.02	-16.66	-0.02	-10.84	-0.02	-9.70	-0.02	-9.64	
year0102	-0.15	-3.7	-0.10	-1.9	-0.16	-3.8	-0.09	-1.7	-0.10	-7.88	-0.11	-8.14	-0.17	-4.96	-0.18	-5.33	**2001**
									-0.09	-6.74	-0.08	-6.64	-0.16	-4.46	-0.15	-4.16	**2002**
									-0.15	-9.88	-0.14	-7.74	-0.23	-6.22	-0.21	-5.03	**2003**
_cons	0.15	0.8	0.28	1.5	-0.62	-2.0	-0.90	-2.9	-1.11	-26.65	-1.33	-9.55	-1.06	-9.21	-1.37	-6.01	
rho			0.40	1.7			0.49	2.0									
LogL	-2584.5		-5050.0		-2573.9		-5030.9		-55489.1		5239.25		-18037.5		-40576.7		
Chi2	335.9		1260.9		377.1		1359.3		1355.51		-126568.8		477.8		1788.08		
Prob>chi2	0.0		0.0		0.0		0.0		0.0		0		0.0		0		
N. obs	4181		4181		4181		4181		148456		148456		48169		48169		

Note: the different sample size between the two countries is mainly due to the different number of quarters and years available since the beginning of the period considered