

An Analysis of the Italian Labour Market based on Compulsory Communications Data ¹

Francesco Chelli, Chiara Gigliarano ²

Abstract

Compulsory Communications system data contain important and so far under-investigated information on employment dynamics in Italy. They record all the activations, transformations, fixed-term extensions and anticipated terminations of employment relationships between any worker and employer since the beginning of 2008. Aim of this note is to exploit this recent database and provide useful up-to-date measures of job dynamics in the Italian labour market. In particular, transition probabilities among different types of contracts are estimated, thus detecting the main determinants of the probability of job activation and job anticipated termination.

Keywords: administrative data, job flows, transition matrix.

¹ This research was funded thanks to the agreement between the General Department for the Innovation Technology of the Italian Ministry of Labour and Social Policies (Director General: Grazia Strano) and the Department of Economics and Social Sciences, Università Politecnica delle Marche. We are indebted to Giuliana Coccia, Marisa Civardi, Luigi Fabbris, the participants to the Workshop "Enhancement and Social Responsibility of Official Statistics", held in Rome on 28-29 April 2011, and an anonymous referee for their valuable suggestions and comments. We are also grateful to Marco Lilla and Stefano Staffolani for the data preparation.

The views expressed in this paper are solely those of the authors and do not necessarily reflect Istat official positions.

² Department of Economics and Social Sciences, Università Politecnica delle Marche, Ancona, Italy. Email: c.gigliarano@univpm.it.

1. Introduction

The ongoing debate about reducing unemployment in Europe has been focusing on the flexibility of labour markets: a central question is whether there is sufficient labour market dynamics; see Berton et al. (2009).

Several studies have been proposed in order to analyze the labour market dynamics in Italy, most of which are based on two well-known datasets: the Work Histories Italian Panel (WHIP) provided by Laboratorio Riccardo Rivelli and the Italian Labour Force Survey provided by Istat.

Aim of this note is to suggest an analysis of the labour market dynamics in Italy based on a novel dataset, that is the Compulsory Communications data provided by the Italian Ministry of Labour and Social Policies. The Compulsory Communications Data ("Comunicazioni Obbligatorie", henceforth CC) contain important information on jobs dynamics in Italy: since the beginning of 2008 they record all activations, transformations and anticipated terminations of employment relationships between any worker and firm³.

The analysis proposed in this paper are, therefore, innovative, as they are based on a novel and so far under-investigated dataset on the Italian labour market. We will focus our attention on the years 2008 to 2010, which correspond to the beginning of the actual economic crisis; therefore, we will also verify whether the novel dataset is able to detect some of the effects of this crisis.

Typically, the Italian labour dynamics is analyzed through transition matrices that refer to workers; see, for example, ISTAT (2010) and Berton et al. (2009). In our analysis, however, we focus on transition probabilities that do not apply to workers but rather to jobs. Here we define a *job* as a continuative (uninterrupted or interrupted for a short period of time) working relationship between the same firm and the same worker. We join different contracts corresponding to same employee and same employer into a unified job. In this way we do not lose information on possible second or third jobs; if a worker has multiple jobs, or changes firm, or leaves a firm and later is newly hired by the same employer, she will be counted more than once in the data.

The note is organized as follows. Section 2 illustrates the data, Section 3 shows first the main determinants affecting the probability of job activation and job anticipated termination and then illustrates estimated transition matrices referring to jobs. Section 4 concludes.

2. The data

Our dataset is a sample of the CC data provided by the General Department for the Innovation Technology of the Italian Ministry of Labour and Social Policies: it refers to all Italian workers born on 15 January, 15 April, 15 July and 15 October of any year. Our database therefore includes about 1 out of 91 of all workers who have been involved in the CC system over the period between January 2008 and June 2010. The workers included in the CC data are all the employees who have been affected by activations, transformations,

³ The CC data do not include information on self-employed. See in particular Strano et al. (2010) and Anastasia et al. (2010).

fixed-term extensions, early anticipated terminations of a working relationship, either public or private.

Data include all the anticipated terminations of permanent contracts (as required by the law); however, they do not include temporary contracts started before January 2008 and ended in the following period at the due date of anticipated termination, because firms had communicated the due date of anticipated termination before January 2008. Therefore, in the available data the labour contracts' anticipated terminations are underestimated.

Starting from this representative sample of more than 330,000 contracts, we have cleaned the data as follows. We have deleted duplicate contracts: about 17,000 interim contracts appear twice and we have removed the contract referring to the interim agency;⁴ also 6,000 contracts are duplicate due to changing firm ownership.

In the data there are also 9,000 cases of transformation, fixed-term extension, early anticipated termination referring to contracts started after January 2008; these contracts should have been included in the data but they were not. This probably means that employers have incorrectly insert the starting date of the contract. We have excluded these contracts from our analysis.

We have classified the types of contract into three main categories: (1) *permanent*, that is the open-ended contract ("contratto a tempo indeterminato"), (2) *fixed-term* ("contratto a tempo determinato") and *apprenticeship* ("contratto di apprendistato") and (3) *parasubordinate* ("contratto di collaborazione coordinata e continuativa"), *internship* ("contratto di stage") and *interim* ("lavoro interinale"). Throughout this note we will use the term *temporary contract* to indicate all the contracts characterized by an expiry date, thus referring to the above categories (2) and (3).

The CC data have as unit of observation the contract ("contratto di lavoro"), defined as a working relationship between an employer and an employee and characterized by a starting date.

However, in the context of analyzing transition matrices, the key concept is the *job* rather than the *contract*; we define a *job* as a continuative (uninterrupted or interrupted for a short period of time) working relationship between a firm and a worker. In our opinion, a working relationship between the same firm and the same worker that ends at time t but resumes at time $t+a$ can be considered as the same job if $a < \tau$, for a given τ . Therefore, more contracts between the same employer and the same employee can constitute the same job if the time between the end of the first contract and the beginning date of the second contract is smaller than a given period of time τ . If $\tau=1$ day the job is characterized by a continuous employment's relationship, while for $\tau > 1$ we allow for time discontinuity in the working relationship between a firm and a worker.

Therefore, by joining different contracts corresponding to same individual and same firm into a unified job, our definition of job differs from the administrative definition of contract. In particular, we have considered as a unique job many temporary labour contracts characterized by one or more fixed-term extensions. This manipulation concerns the cases in which the firm used both the fixed-term extension communication ("Proroga") form and the anticipated termination ("Cessazione") or activation ("Attivazione") forms, if the

⁴ The double registration of the interim contracts is not due to errors, but it rather depends on the registration's rules of the Compulsory Communications data: interim contracts must be registered twice, both by the employee and by the interim agency.

temporal distance between the end of the first contract and the beginning date of the new contract is smaller than a given τ . We define these cases *hidden extensions*.

Also, we have considered as a same job different types of contracts between the same firm and the same worker, if the temporal distance between the two contracts is smaller than a given τ . We name these cases *hidden transformations*.

In this note we set $\tau=30$ days, following most of the literature on labour market that analyzes monthly data;⁵ therefore a job is characterized by an uninterrupted (or interrupted for a period of time shorter than 30 days) working relationship between a firm and a worker. Our final dataset is made up by more than 263,000 jobs.

For more details on the data preparation and cleaning process we refer to Lilla and Staffolani (2011).

Note that our analysis refers to employment's relationships and not to workers: if a worker has multiple jobs, or changes firm, or leaves a firm and later is newly hired by the same firm (after 30 days), the dataset contains more than one observations for the same worker. In the labour market literature it is not a novelty to consider as unit of analysis jobs rather than individuals; for example, Contini and Pacelli (2005) discuss about the difference of considering jobs' flows rather than workers' flows. Also Davis et al. (1996) introduce a concept of job, defined as an employment position filled by a worker, according to which, therefore, a worker may have more than one job, analogously to our case.

3. The analysis

Our first aim is to detect the main determinants that affect activation or anticipated termination of jobs; then we estimate transition probabilities that a job moves among different types of labour contracts.

The population of interest for our analyses is made up by all the jobs referring to the employees who have been involved in activations, transformations, fixed-term extensions, anticipated terminations of the labour contract between April 2008 and June 2010.⁶ In particular, all the contracts with a starting date after April 2008 are included, since the registration of their activation is compulsory. Also all the contracts that have had transformations, fixed-term extensions or anticipated terminations after April 2008 are included. However, temporary contracts which started before 2008 and ended in the following period at the due date of termination are not included in the CC dataset. Therefore, the labour contracts terminations are underestimated.

From the cleaned database we have built a monthly longitudinal dataset, containing information on the presence or absence of every job in each month along with information on some individual and job characteristics.⁷

⁵ For example, one of the most used dataset on the Italian workers' mobility, the Work Histories Italian Panel provided by Laboratorio Riccardo Revelli, considers as unit of time the month.

⁶ In order to avoid problems due to early development of the CC system and to incomplete review of the latest communications we have excluded from our analysis communications registered before April 2008 and after June 2010.

⁷ In particular, for each job we have indicated whether the working relationship is present at the 15th day of each month.

3.1 Jobs activation and anticipated termination

In order to detect the determinants of the probability of job anticipated termination and job activation in a month, we run a logistic regression to estimate the probability that a job is present at time t_0 and not present at time t_1 (job anticipated termination, henceforth *out*), and the probability that a job is not present at time t_0 but is present at time t_1 (job activation, henceforth *in*). The event *in* may be considered as a job creation, while the event *out* may be interpreted as job destruction; see, e.g., Davis et al. (1996).

The main determinants that we consider for the events *in* and *out* are: the type of contract, age, gender, education level of the worker, and geographical area.

The results of the analysis are summarized in Table 1. The probability of job activation (column *in*) is significantly higher if the worker is older, or female, or has a secondary or tertiary education. On the other side, the probability of job anticipated termination (column *out*) is higher for female and for temporary contracts, lower if the worker is older or has a secondary or tertiary education, or if the contract has been stipulated in the North or in the Center of Italy. Therefore, from the analysis it emerges that female tend to find short-term jobs with higher frequency, while male are characterized by long-term employment; these findings are in line with previous analysis on the Italian labour market, such as Trivellato et al. (2005b), which shows that female are characterized by higher employment mobility than male. Also, it seems that workers who are older, or live in North-Center of Italy or are highly educated are more likely to find and keep a job easily.

Starting from these results, we will be able to analyze in the next subsections transition probabilities among specific types of contract for the subgroups identified by the explanatory variables listed in Table 1.

Table 1 - Logit estimates for job inflows and outflows, β coefficients

	in	out
Contract: fixed-term, apprenticeship	-0.201***	1.230***
Contract: parasubordinate, internship, interim	-0.111***	1.381***
North-East	-0.021**	-0.497***
North-West	0.021**	-0.383***
Center	0.003	-0.406***
South	-0.031***	0.024**
Education: secondary	0.027***	-0.170***
Education: tertiary	0.137***	-0.268***
Female	0.041***	0.073***
Age in year 2008	0.002***	-0.006***
N	4,484,400	2,281,652

Source: own elaboration of CC data

Note: We control for year, occupations, sectors. Reference categories are: male, with primary education, with permanent employment, in the Islands.

3.2 Jobs transition matrices

We now refine the analysis by monitoring the specific types of contract that are involved in job activation and job anticipated termination; in particular, we estimate average transition matrices that refer to jobs rather than to workers. The main advantage of these matrices is that we do not lose information on possible second or third jobs of a worker.

We have first built monthly transition matrices for each month between April 2008 and June 2010. Then, in order to neutralize the random components in the monthly matrices we have constructed an average matrix for each year as well as for the whole period of analysis. In this way, information is more stable and better suited for a long period analysis. Results are shown in Tables 2 to 5.

We have estimated the probability that a job modifies its type of contract or maintains the same contract characteristics from time t_0 to time t_1 . The row *Activation* refers to new contracts activated after time t_0 , while the column *Termination* refers to contracts terminated before time t_1 . In particular, the cell corresponding to the column *Termination* and the row *Activation* indicates those contracts lasting less than one month, that has been activated after time t_0 and terminated before time t_1 .

Table 2 - Average monthly transition matrix and limiting vector (%) - year 2008

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
Permanent contract	97.423	0.012	0.004	2.562
Fixed-term, apprenticeship	1.822	88.249	0.022	9.908
Parasubordinate, internship, interim	0.912	0.738	89.498	8.852
Activation	29.528	49.631	11.699	9.142
Limiting vector	69.833	20.194	5.287	4.686

Source: own elaboration of CC data

Table 3 - Average monthly transition matrix and limiting vector (%) - year 2009

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
Permanent contract	97.463	0.014	0.004	2.518
Fixed-term, apprenticeship	1.641	87.307	0.026	11.026
Parasubordinate, internship, interim	0.687	0.608	89.438	9.267
Activation	30.975	48.304	11.933	8.788
Limiting vector	71.391	18.417	5.442	4.750

Source: own elaboration of CC data

Table 4 - Average monthly transition matrix and limiting vector (%) - year 2010

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
Permanent contract	97.478	0.018	0.005	2.499
Fixed-term, apprenticeship	1.909	87.758	0.049	10.284
Parasubordinate, internship, interim	0.604	0.704	89.493	9.200
Activation	28.989	48.108	13.864	9.038
Limiting vector	69.990	18.969	6.332	4.708

Source: own elaboration of CC data

Table 5 - Average monthly transition matrix and limiting vector (%) - years 2008-2010

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
Permanent contract	97.456	0.015	0.004	2.525
Fixed-term, apprenticeship	1.756	87.699	0.030	10.515
Parasubordinate, internship, interim	0.736	0.671	89.470	9.123
Activation	30.062	48.688	12.292	8.958
Limiting vector	70.599	19.082	5.596	4.723

Source: own elaboration of CC data

The monthly transition matrices calculated for each year (Tables 2 to 4) and over the entire period of the analysis (Table 5) are quite similar, although some interesting differences emerge. From these matrices we observe that persistence rate along the main diagonal appears to be substantial: the probability for a job to remain a permanent contract after one month is more than 97%. Lower are the persistence probabilities in case of fixed-term and apprenticeship contracts (about 88%) and of parasubordinate, internship and interim contracts (about 89%).

The probability that a job move from a permanent contract to another type of contract is almost null; in particular, there exist very few cases in the CC data in which a permanent contract between an employer and an employee has been terminated and a new temporary contract between the two has been activated within 30 days.

Also, looking at the first column of each matrices, we note that the probability for a fixed-term or apprenticeship contract to be transformed into a permanent contract is less than 2% and even smaller is the probability for a job to move from parasubordinate, internship or interim contracts to a permanent contract.

Most of the new contracts' activations in a month are fixed-term and apprenticeship contracts, followed by permanent contracts and at a much smaller percentage by parasubordinate, internship and interim contracts.

The yearly analysis also allows us to verify at which extent the economic crisis's effects can emerge from this new dataset. In particular, over the three years considered, the probability of new activations of fixed-term and apprenticeship contracts slightly reduces over time, from 49.6% to 48.1%. On the contrary, the probability of new activation of parasubordinate, internship and interim contracts increases from 11.7% to 13.9%. Also, the probability of termination of non-permanent contracts slightly increases over the years considered.

Another signal of the economic crisis emerges from the decreasing probability of moving from parasubordinate, internship and interim contracts to permanent contracts from the year 2008 to the year 2010. These findings are in line with the results discussed in Istat (2011).

These data are, therefore, able to show some of the expected trends due to the recent economic crisis, though the phenomenon is here underestimated because of the partial information available in the new dataset.

We also estimate the limiting vector, representing the equilibrium point of a transition matrix. We let the process run for an indefinite time span, and we end up in an equilibrium state called the stationary distribution.⁸ It is made up by the probabilities of belonging to the states of the system in the long run; see Kemeny and Snell (1960). Table 5 (which is based on the average of the three years 2008-2010) shows that in the long run about 70% of the jobs have permanent contracts, about 19% have fixed-term and apprenticeship contracts and almost 6% have parasubordinate, internship and interim contracts.

⁸ Consider the Markov chain $\{X_n\}_{n \geq 1}$ underlying a transition matrix and denote the n -step transition probability with $P_n(i, j) = P(X_{m+n} = j | X_m = i)$.

The limiting distribution of the Markov chain is defined as the quantity π such that $\lim_{n \rightarrow \infty} P_n(i, j) = \pi$.

3.3 Job transition matrices: a subgroup analysis

We now move to transition matrices and limiting vectors for subgroups of jobs, partitioned according to some characteristics of the worker and the job. This analysis refers to the entire period of time between April 2008 and June 2010.

We first partition the 263,000 jobs according to the gender of the worker. Table 6 shows that jobs are characterized by similar persistence rates both for female and male workers for any type of contract. Transition probability from fixed-term or apprenticeship to permanent contract is instead slightly lower if the worker is a female, in line with the results presented in Berton et al. (2005) and in Istat (2010). In the long run the proportion of jobs with permanent contract seems slightly higher if the worker is female rather than male.

Table 6 - Average monthly transition matrix and limiting vector (%) - years 2008-2010: by gender

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
MALE				
Permanent contract	97.171	0.018	0.006	2.805
Fixed-term, apprenticeship	2.002	87.484	0.028	10.486
Parasubordinate, internship, interim	0.732	0.689	89.731	8.848
Activation	32.144	47.717	11.267	8.872
Limiting vector	70.563	19.071	5.469	4.897
FEMALE				
Permanent contract	97.806	0.011	0.002	2.181
Fixed-term, apprenticeship	1.502	87.922	0.031	10.545
Parasubordinate, internship, interim	0.739	0.653	89.209	9.399
Activation	27.752	49.765	13.429	9.054
Limiting vector	71.171	18.749	5.618	4.461

Source: own elaboration of CC data

In Table 7 we decompose the analysis according to the geographical area. In the northern regions of Italy CC data register slightly higher persistence rates in permanent contracts, significantly higher probabilities for a job to stay in fixed-term or apprenticeship contracts, and much higher probability of transition from fixed-term or apprenticeship to permanent contracts than in other areas of the country. These results are in line with the analysis provided by Istat (2010).

In the long run, we observe similar incidence rates for parasubordinate, internship and interim contracts across the different parts of Italy, but higher proportion of permanent contracts and lower proportion of fixed-term or apprenticeship contracts in the North of Italy than in the South and Islands.

We now move to analyze differences based on the age of the worker; we should first remark that 67% of all the working relationships in the CC data involve 35 years old or younger workers, while 25% of the CC contracts concern workers between 36 and 50 years old and only 7% of the contracts are for 51 years old or older workers. Table 8 shows that the proportion of new activation of parasubordinate jobs is much higher for the younger workers than for the older, confirming the recent trend in the Italian labour market.

Table 7 - Average monthly transition matrix and limiting vector (%) - years 2008-2010: by geographical area

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
NORTH-EAST				
Permanent contract	97.726	0.011	0.004	2.259
Fixed-term, apprenticeship	2.533	89.696	0.026	7.745
Parasubordinate et al.	0.723	0.711	89.474	9.092
Activation	36.004	38.200	16.825	8.971
Limiting vector	76.156	14.184	5.967	3.693
NORTH-WEST				
Permanent contract	97.770	0.018	0.005	2.207
Fixed-term, apprenticeship	1.981	88.120	0.029	9.869
Parasubordinate et al.	0.694	0.940	88.466	9.900
Activation	26.299	53.216	11.768	8.717
Limiting vector	70.963	20.099	4.555	4.382
CENTER				
Permanent contract	97.548	0.014	0.005	2.433
Fixed-term, apprenticeship	1.825	89.259	0.040	8.876
Parasubordinate et al.	0.639	0.667	90.267	8.427
Activation	30.824	44.990	13.565	10.621
Limiting vector	70.612	18.800	6.213	4.375
SOUTH				
Permanent contract	96.761	0.016	0.003	3.220
Fixed-term, apprenticeship	0.929	84.425	0.028	14.618
Parasubordinate et al.	0.870	0.408	89.713	9.009
Activation	27.442	55.965	8.595	7.998
Limiting vector	64.025	23.828	5.574	6.572
ISLANDS				
Permanent contract	96.799	0.018	0.003	3.180
Fixed-term, apprenticeship	1.002	85.569	0.024	13.405
Parasubordinate et al.	0.914	0.378	89.051	9.657
Activation	28.904	53.563	9.120	8.412
Limiting vector	65.132	23.369	5.263	6.236

Source: own elaboration of CC data

Table 8 shows also that transition probabilities from temporary to permanent contracts slightly decrease as the age of the worker increases; a similar trend appears for transition probabilities from a parasubordinate, internship or interim contract to a fixed-term or apprenticeship contract. On the contrary, for the elderly the persistence rate in a non-permanent job is higher than for the younger; this could be also due to second jobs or consultancy contracts. Our findings are in line with the literature; for example, Trivellato et al. (2005a, 2005b) show that the older workers are characterized by more stable jobs, while the younger tend to experience higher job mobility. Also Berton et al. (2005) show that the probability of moving from parasubordinate jobs to fixed-term or permanent jobs is higher for the younger and decreases with the age. Our results should, however, be interpreted with caution because of the peculiar nature of the CC dataset, which includes only contracts that have been activated or modified after April 2008 and excludes most of the contracts referring to the older workers.

Also, we note from Table 8 that the probability that a permanent or fixed-term job terminates after a month is significantly higher for older than for younger workers; this could be due to early retirement.

Table 8 - Average monthly transition matrix and limiting vector (%) - years 2008-2010: by worker's age

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
35 YEARS OLD AND YOUNGER				
Permanent contract	97.435	0.020	0.003	2.542
Fixed-term, apprenticeship	1.853	88.576	0.030	9.541
Parasubordinate, internship, interim	0.868	0.933	87.958	10.241
Activation	26.703	48.867	14.844	9.585
Limiting vector	67.817	21.308	6.036	4.839
36-50 YEARS OLD				
Permanent contract	97.751	0.011	0.002	2.236
Fixed-term, apprenticeship	1.777	86.834	0.028	11.360
Parasubordinate, internship, interim	0.666	0.457	90.436	8.441
Activation	35.266	48.002	8.598	8.133
Limiting vector	77.093	15.086	3.735	4.085
51 YEARS OLD AND OLDER				
Permanent contract	96.895	0.011	0.011	3.083
Fixed-term, apprenticeship	1.193	85.267	0.035	13.505
Parasubordinate, internship, interim	0.411	0.134	92.946	6.509
Activation	31.406	49.576	10.656	8.363
Limiting vector	66.199	19.301	8.803	5.697

Source: own elaboration of CC data

Table 9 - Average monthly transition matrix and limiting vector (%) - years 2008-2010: by worker's education

	Permanent contract	Fixed-term, Apprenticeship	Parasubordinate, Internship, interim	Termination
PRIMARY EDUCATION				
Permanent contract	96.739	0.018	0.005	3.238
Fixed-term, apprenticeship	1.893	86.116	0.021	11.970
Parasubordinate, internship, interim	0.823	0.675	88.517	9.984
Activation	26.998	56.089	8.500	8.413
Limiting vector	64.985	24.514	4.508	5.993
SECONDARY EDUCATION				
Permanent contract	97.527	0.014	0.006	2.453
Fixed-term, apprenticeship	1.753	89.695	0.041	8.511
Parasubordinate, internship, interim	0.748	0.763	89.413	9.075
Activation	23.638	46.692	18.140	11.530
Limiting vector	64.372	22.472	8.353	4.803
TERTIARY EDUCATION				
Permanent contract	98.154	0.008	0.007	1.832
Fixed-term, apprenticeship	1.268	91.743	0.033	6.956
Parasubordinate, internship, interim	0.697	0.538	91.042	7.723
Activation	20.912	42.825	27.979	8.283
Limiting vector	62.925	20.966	12.232	3.877

Source: own elaboration of CC data

Finally, if we split jobs according to the education level of the worker, we observe that the persistence rate in all the three types of contract significantly increases with the education level. On the contrary, transition probabilities as well termination rates decrease as the education level attained improves. Therefore, the probability of maintaining the same job is higher for the more educated workers. Also, the probability that a job terminates after one month (column *Termination*) deeply decreases as the attained education level increases. Our findings are in line with the analysis in Trivellato et al. (2005), who underline that this trend may partly depend on age's and professional sector's effects.

Table 9 shows also that if we could protract in the long run the Italian employee labour market registered in the CC for the years 2008 to 2010, the probability of activating a parasubordinate, interim or internship contract would be much higher if the worker had a tertiary education level. For workers with compulsory education level the most common type of contracts are permanent, fixed-term or apprenticeship.

4. Concluding remarks

In this note we have focused on jobs rather than on workers. This is an important potentiality of the CC data that, in our opinion, should be stressed and exploited.

We have first estimated the probabilities of a job activation and of a job anticipated termination, and detected the significant determinants that may affect these events. It has emerged that age, gender, educational level and geographical area of the worker significantly influence these probabilities.

We have then refined the analysis by monitoring the specific types of contract that are involved in activation and anticipated termination; in particular, we have proposed transition matrices related to jobs rather than workers. We have also compared transition probabilities for different groups of jobs, defined according to some socio-demographic characteristics of the worker. It has emerged that the novel dataset (although it contains only partial information on the Italian job market) is able to detect important effects of the current economic crisis on the Italian job dynamics.

References

- Anastasia, B., M. Disarò, G. Emireni., M. Gambuzza and M. Rasera. 2010. Guida all'uso delle Comunicazioni Obbligatorie nel monitoraggio del mercato del lavoro. *I Tartufi*, n. 36, Veneto Lavoro.
- Berton, F., L. Pacelli and G. Segre. 2005. Tra lavoro parasubordinato e lavoro dipendente: evoluzione della carriera nel breve periodo, in B. Contini B. and U. Trivellato (eds.) *Eppur si muove: dinamiche e persistenze nel mercato del lavoro italiano*, Il Mulino, Bologna, 459-484.
- Berton, F., F. Devicienti and L. Pacelli. 2009. Are temporary jobs a port of entry into permanent employment? Evidence from matched employer-employee data. *Working paper*, n. 6, Department of Economics and Public Finance "G. Prato", Università degli Studi di Torino.
- Berton, B., M. Richiardi and S. Sacchi, 2009. *Flex-insecurity. Perché in Italia la flessibilità diventa precarietà*. Il Mulino, Bologna.
- Contini, B. and L. Pacelli. 2005. Mobilità dei lavoratori e dei posti di lavoro: problemi di misura e questioni aperte, in B. Contini B. and U. Trivellato (eds.) *Eppur si muove: dinamiche e persistenze nel mercato del lavoro italiano*, Il Mulino, Bologna, 115-142.
- Davis, S. J., J. C. Haltiwanger and S. Schuh. 1996. *Job creation and destruction*. The MIT Press Cambridge, Massachusetts, London.
- Kemeny, J. G., and L. J. Snell. 1960. *Finite Markov Chains*, Springer-Verlag, New York.
- Lilla, M. and S. Staffolani. 2011. Young Entrants, Temporary Jobs and Career Opportunities. Short-term perspectives of young Italian workers. *mimeo*.
- ISTAT. 2010. La mobilità nel mercato del lavoro: principali risultati del periodo 2004 - 2008. *ISTAT Approfondimenti*, 1 February 2010.
- ISTAT. 2011. *Rapporto annuale. La situazione del Paese nel 2010*. Istat.
- Strano, G., T. Lang, B. Rossi and V. Sorci. 2010. Il sistema delle comunicazioni obbligatorie: uno strumento per l'analisi del mercato del lavoro. *Ministero del Lavoro e delle Politiche Sociali*.
- Trivellato U., A. Paggiaro, R. Leombruni and S. Rosati. 2005a. La dinamica recente della mobilità dei lavoratori, in B. Contini B. and U. Trivellato (eds.) *Eppur si muove: dinamiche e persistenze nel mercato del lavoro italiano*, Il Mulino, Bologna, 271-323.
- Trivellato U., F. Bassi, A. Rinaldo Discenza and A. Giraldo. 2005b. Transizioni e mobilità nel mercato del lavoro italiano, 1979-2003, in B. Contini B. and U. Trivellato (eds.) *Eppur si muove: dinamiche e persistenze nel mercato del lavoro italiano*, Il Mulino, Bologna, 143-204.