WORK-HISTORY PATTERNS IN ADULT WORKERS

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1. Introduction

Changing of both economic models and labour market – particularly in terms of flexibility of relationships – has much influenced the point of view of observers, who have recently highlighted not only the structure and the features of labour force involved in production processes, but especially the analysis of individuals' job careers. However, these are often based on younger workers, whereas less attention is paid to adult workers, although they represent the main pillar of the social model characterizing our Country (in fact, about two thirds of overall employment stands among those aged 35 to 54).

The attention paid to adult workers depends on the fact that, whereas in a family a precarious young worker is a serious problem, it is much worse if "parents" lose their job for at least two reasons: on the one hand an adult encounters much more difficulties to find a new job (he/she costs more than a young person, is reluctant to job transfers, it is more difficult he/she can acquire new skills as age raises, etc.); on the other hand parents often guarantee household support (not only in economic matters) in those recurrent cases where sons lose their job, thus representing, de facto, a real social welfare structure.

2. Discontinuous careers and economic policy fallouts

In recent years, mainly in Italy, several regulatory and economic policy interventions aimed at reorganising on the whole labour market, especially to obtain more flexibility [1].

A common feature of such interventions has been the lack of statistical data fit to evaluate properly the policies implemented[2]. The evaluation of specialists has

[1] It is worth mentioning, among various interventions, the law issued on February 14, 2003, no. 30 (known as *Biagi law*), or more recent regulations, such as the law issued on June 28, 2012, no. 92, or, more lately, the so-called *Jobs Act* (implemented by the Decree-Law issued on March 20, 2014, no. 34 and by the Law issued on December 10, 2014, no. 183).

often merely analysed aggregate data (both before and after the adoption of provisions), being difficult to distinguish the impact of policies from that of other (both structural and pertaining to the economic situation) factors not ascribable to them.

Of course, there have been attempts of measuring the impact of new regulations on macro-aggregate trends, both by institutions (Ministry of Labour and Social Policy, 2014) and scholars (B. Contini et al., 2002; A. Ichino et al., 2005; A. Martini et al., 2011; for a thorough review, see U. Trivellato, 2011); however, much has to be done to understand clearly labour market mechanisms, not only to know in detail how the youngest succeed in entering and getting stable employment, but also to identify fully adult careers. It is worth underlining that current income levels, but also future pension expectations, depend on such adult careers.

From the studies carried out, it seems that there is a sharp division between those already in the labour market (the insiders, generally less vulnerable to regulatory changes) and those, on the contrary, more prone to flexibility (the outsiders, usually less protected and with limited access to welfare systems) (G. Barbieri and P. Sestito, 2008); on the other hand, it seems less clear the impact of flexibility on future job careers, which, in some cases appears as a necessary passage towards stabilization, while in others it constitutes more a risk of "trap" (F. Berton et al., 2008; F. Berton et al., 2009; A.L. Booth et al., 2002).

However, predominant literature substantially agrees to at least two aspects: on the one hand, our welfare system is less generous towards temporary unemployed people; on the other hand the reforms implemented, although they make inflow flexibility easier, do not improve welfare systems for these "new" flexible workers, in any case structurally less protected than insiders (G. Barbieri and P. Sestito, 2008).

Furthermore, it has to be pointed out an aspect poorly considered by laws: Italy is characterised by great territorial gaps, more than every European Country; such gaps lead to take decisions consistent with different territorial levels; it is clear that provisions taken at central level, focusing on an "average" situation, hardly will have a proper impact in those territories significantly deviating from this "average" (A. Ciccarelli, 2012a and 2012 b).

Therefore, in this context, it appears fundamental to understand who are those adults with discontinuous careers (i.e., alternating work and non-work periods), which are their main features, in order to identify the profiles of such individuals experiencing job instability, and subsequently to cause proper corrective actions.

[2] Already in the past (see, among others, E. Rettore et al., 2003) had been highlighted the necessity to take up a more structured approach for the implementation of policies, oriented (also) to evaluate the effects of interventions and to organize the survey of necessary data.

The attention paid to the analysis of job careers is justified not only because longer periods of unemployment affect considerably current income levels (and, therefore, consumption), but also because frequent labour market incoming and outgoing influence even more in the light of current pension system structure, where individual pensions depend crucially on the amount of the contributions he/she accumulated in his/her work life.

3. Dataset used

Following analyses are based on ISFOL Plus survey (Participation Labour Unemployment Survey), a national sample survey on job offer carried out in the framework of National Statistical Plan since 2006[3]. Using Plus survey data allows retrieving information on phenomena only sporadically explored by the most known surveys on Italian labour market. Indeed, while the Labour Force Survey by ISTAT provides regularly aggregates and official indicators on labour market (unemployment rates, employment rates, activity rates, etc.), Plus survey focuses on specific features, such as the typology of employment (employee, self-employed, informal, etc.), search for employment, job participation of women and youth and education and training levels, taking into account the relationship between generations.

This survey has been developed to study current labour market, characterized by an ever-faster transformation of search-for-employment ways as well as by new and multiple forms of employment contracts – almost unchanged in past decades – where the concepts of employment and unemployment not always correspond to classic categories. From this perspective, such surveys outlines the real shape of labour market, as it is perceived by the people concerned, with particular reference to women and youth matters. A dynamic view of these phenomena is given by a longitudinal scheme, that is, a set of interviews repeated to the same individuals (panel) which traces individual routes in labour market as time passes.

Plus data on employment are based on a ranking criterion different from that used in the Labour Force Survey. In effect, while Plus survey defines as employed and in search for employment people who define themselves in this way, the Labour Force Survey identifies each job condition on the basis of some "objective" information dealing with the following: having worked at least one hour in the week the interview refers to, as to employed people; having actively sought work, i.e. having taken specific steps in the thirty days before the interview and being immediately available to work, as to people in search for employment. This due

[3] For a thorough explanation of Isfol Plus source, see E. Mandrone and D. Radicchia, 2006.

explanation implies that ISTAT (EUROSTAT) framework, to some extent, shows bigger (smaller) sample relative frequencies of employed people (people searching for employment). Plus survey overall idea of recording the job condition that is self-perceived by interviewees entails that the distinction between people "searching for employment" and "inactive people" is different from that used in the Labour Force Survey[4].

4. Key results

The approach developed in this paper allows going further than current literature on labour market, limited usually to cross-section analyses of workers. Thanks to a panel analysis approach, the aim is to try to understand dynamic effects of labour market incoming and outgoing over time.

Primarily, we have considered 2008 job condition of some individuals and changes in job careers after two years, starting from wawe 2010 data[5]; then, we have divided these individuals according to their age and working months during the year. In this way, through some transition matrices, we have observed the probability of passage from one job condition to another, in terms of both individuals' labour status and working months during the year (see tables 1 and 2).

The analysis shows, as previously already reported (E. Fabrizi and R. Evangelista, 2010; E. Fabrizi et al., 2012), some kind of rigidity when passing from one category to another: about 90% of permanent workers in 2008 remain the same also in 2010 (in both age groups); one fixed-term worker out of two remain the same (age group 30-45), while he/she can turn into a permanent worker or unemployed with the same probability (about 22-23% aged 30-45); about two thirds of the unemployed remain the same after two years (in both age groups), it is unlikely that they get a fixed-term employment (16.1% aged 30-45 and 9.1 aged 45 and over) or a permanent employment (8.4% aged 30-45 and 10.7 aged 45 and over); finally, the unemployed who, seen job uncertainty, try to become self-employed are few (2.6% and 4.2% respectively in the two age groups).

In particular, rigidity of older people when leaving unemployment is worth further reflection: the greatest support measures to unemployment are generally focused on the young, who, in general, are also supported by households, i.e. a fundamental pillar of (Italian) welfare. Both first and second support fail to adult

[4] The Survey annually samples about 40,000 individuals aged 18-64 and is characterized by an extensive number of panel observations (about 65%). The survey sample design is stratified by regions, type of city, age, sex and employment status. The reference population is derived from the annual averages of the Istat Labour Force Survey (see E. Mandrone, M. Marocco and D. Radicchia, 2013). Data presented here come from 2008 and 2010 waves.

[5] On the whole, it is a sample of 2,420 people in the age group 30-45 and 4,851 people in the age group 45 and over.

(non) workers, so that remaining unemployed becomes even more onerous for those who suffer such condition.

Table 1 – *Transitions Matrix – Destination in 2010 for active population in 2008: labour status (percentage values)*

Labour Status in 2008	Labour Status in 2010				
	Fixed-term worker	Permanent worker	Self-Employed	Unemployed	Others
	Age group: 30-45				
Fixed-term worker	48.3	21.9	4.6	22.9	2.3
Permanent worker	3.3	90.7	1.4	3.8	0.8
Self-Employed	7.4	9.1	73.0	8.0	2.5
Unemployed	16.1	8.4	2.6	64.5	8.4
Others	3.9	4.3	3.3	32.7	55.8
	Age group: 45 and over				
Fixed-term worker	38.2	26.4	10.1	19.1	6.2
Permanent worker	1.7	88.2	0.9	1.2	8.0
Self-Employed	5.5	7.0	77.0	4.1	6.4
Unemployed	9.1	10.7	4.2	67.6	8.4
Others	0.5	0.6	0.4	0.3	98.2

Source: our estimates on Isfol PLUS data (Participation Labour Unemployment Survey)

Table 2 – *Transitions Matrix – Destination in 2010 for active population in 2008: working months during the year (percentage values)*

Working Months during 2008	Working Months during 2010			
	Zero months	1-6 months	7-11 months	12 months
	Age group: 30 - 45			
Zero months	79.1	8.5	2.5	9.9
1-6 months	30.2	33.2	7.4	29.2
7-11 months	19.6	20.5	15.2	44.7
12 months	3.3	5.0	3.5	88.2
	Age group: 45 and over			
Zero months	71.9	14.6	3.2	10.3
1-6 months	21.1	27.6	11.4	39.9
7-11 months	10.8	26.5	15.7	47.0
12 months	0.9	3.8	3.5	91.8

Source: our estimates on Isfol PLUS data (Participation Labour Unemployment Survey)

Similar remarks (in terms of rigidity) can be made if we observe working months: extreme situations (0 and 12 working months) continue also after two

years (in a substantial parallel way also in different age groups); those working from 7 to 11 months have good chances to find a one-year long job (almost 50% is in this condition); those working up to 6 months have more or less the same chances to improve or worsen their condition (being improvement chances higher for those over 45).

Secondly, and taking into account the three waves available (2008, 2010 and 2011), we have divided those individuals who are in all the surveys on the basis of their job condition. This has led to a segmentation of interviewees in three groups: those who, in the three waves, have never worked; those who have always worked (12 months each year); those who have worked discontinuously (less than 12 months yearly). Such groups have been further divided according to age (30-45 and 45 and over); sample distribution within groups is shown in table 3.

The aim of this analysis was to understand which individual features – such as age, gender, residence, qualifications, etc. – are mostly able to influence the membership to a group or another, therefore the probability to experience prolonged unemployment periods or discontinuous employment. For this purpose, we have used a multinomial logit model, which, as everyone knows, is particularly helpful when we have a qualitative dependent variable[6].

The analysis of these data shows some confirmations (whose intensity appears higher than what expected) and some interesting causes for reflection.

Table 3 – *Distribution of sample units – working months and age groups (absolute and percentage values)*

	Age group 30-45		Age group 45 e più	
	Abs. value	%	Abs. value	%
Have never worked	570	21.7	99	2.1
Have worked discontinuously	970	36.9	2,628	56.1
Have always worked	1,091	41.5	1,958	41.8
Total	2,631	100.0	4,685	100.0

Source: our estimates on Isfol PLUS data (Participation Labour Unemployment Survey)

First of all, as we can observe in table 4, if we compare two extreme groups ("I have always worked" vs "I have never worked"), we can realise that each additional year of age doubles the odds of remaining unemployed; on the contrary, odds overturn in those aged 45 and over (perhaps because adult workers tend to have a job, while who have not had it for long time, tend to exit from the market instead of looking for another job). Equally, being female turns out to be highly

[6] For a detailed analysis of the models used, see, among others, A. Agresti, 2013.

penalizing compared to men, in particular for those aged 30-45 (with odds ratio equal to 6.17).

Among the youngest, having children affects negatively: the probability to experience unemployment is almost twice as much (we suppose that the features of "parent" and "woman" often coincide, being the latter who often takes charge of children raising); on the contrary, in the superior age group, such probability is equivalent to less than half (this is why who have children in this age class try to increase their income in any way to guarantee higher levels of wellbeing).

The odds of experiencing long periods of unemployment increase according to residence: only a few (1.36) for those living in Central Italy (compared to North), much more (3.42) for those living in South Italy – and dynamics are substantially similar also for the higher age class.

Qualifications, so much criticized, appear to be a kind of "insurance" against unemployment. Such aspect is not new, but the effect that they exert are striking: compared to degrees, high school diplomas give odds of 3.5 higher of remaining unemployed, while secondary school certificates give odds of even 10 higher of remaining unemployed. Furthermore, the intensity of such phenomenon appears not to decrease when age raises.

Table 4 – *Multinomial Logit Model: Comparison between groups "Have always worked" vs "Have never worked" (benchmark)*

Effects	Age group: 30-45				Age group: 45 and over			
	Odds Ratio		95% Wald Confidence Limits		Odds Ratio		95% Wald Confidence Limits	
Age (2008)	2.06	*	1.25	3.43	0.25	*	0.07	0.93
Age^2	0.99		0.98	1.00	1.01		1.00	1.03
Edu: high sc. diplomas vs degree	3.48	*	2.46	4.93	3.32	*	1.61	6.86
Edu: sec. school cert. vs degree	9.44	*	6.30	14.15	10.91	*	5.12	23.24
Area: Central Italy vs North Italy	1.36	*	1.00	1.86	1.91	*	1.06	3.45
Area: South Italy vs North Italy	3.42	*	2.63	4.45	2.73	*	1.66	4.52
Gender: female vs male	6.17	*	4.29	8.86	1.99	*	1.30	3.03
House: property vs rental	1.42	*	1.09	1.86	1.70	*	1.07	2.69
Municipality: non metr. vs metr.	0.94		0.73	1.22	0.69		0.43	1.09
Children: yes vs no	1.80	*	1.17	2.76	0.40	*	0.21	0.77
Single vs married/ cohabitant	0.96		0.59	1.57	1.54		0.72	3.29
Divorced vs married/cohabitant	0.32	*	0.13	0.76	2.09		0.93	4.68

Source: our estimates on Isfol PLUS data (Participation Labour Unemployment Survey)
*Symbol * shows a significance level $\alpha \leq 0.05$*

Finally, here follows some further remarks: house owners have greater probabilities – odds ratio of 1.42 and 1.70 depending on age class – of experiencing unemployment (this could be because owning a house affects in some way the persistence of search for employment); among the youngest (30-45), divorced people shows odds of remaining unemployed equivalent to one third compared to married people (in this case the relation between the cause and the effect is less clear: perhaps job security encourages to live as a single, rather than the contrary).

By comparing the group "I have always worked" and "I have worked, but not always", differences are much more indefinite, as the differences between the two job conditions is much more indefinite (see table 5).

By observing data, among the youngest age raising does not represent a detrimental factor, and among adults the effect of residence appear to diminish.

On the contrary, gender differences (more emphasized in 30-45 age class) as well as qualification differences, which become more significant for individuals over 45 (although at levels lower than those of the previous analysis) remain.

Table 5 – *Multinomial Logit Model: Comparison between groups "Have always worked" vs "Have worked discontinuously" (benchmark)*

	Age group: 30-45				Age group: 45 and over			
Effects	Odds Ratio		95% Wald Confidence Limits		Odds Ratio		95% Wald Confidence Limits	
Age (2008)	1,37		0,94	2,01	0,03	*	0,02	0,05
Age^2	1,00		0,99	1,00	1,04		1,03	1,04
Edu: high sc. diplomas vs degree	1,22		0,98	1,52	2,69	*	2,21	3,27
Edu: sec. school cert. vs degree	2,34	*	1,75	3,14	5,85	*	4,64	7,36
Area: Central Italy vs North Italy	1,40	*	1,10	1,78	0,85		0,70	1,04
Area: South Italy vs North Italy	2,47	*	2,00	3,05	0,95		0,81	1,13
Gender: female vs male	2,20	*	1,76	2,76	1,26	*	1,09	1,47
House: property vs rental	1,18		0,94	1,49	1,03		0,83	1,29
Municipality: non metr. vs metr.	0,97		0,79	1,19	1,10		0,93	1,29
Children: yes vs no	1,11		0,81	1,52	1,23		0,93	1,63
Single vs married/ cohabitant	1,70	*	1,21	2,38	1,40		0,98	2,01
Divorced vs married/cohabitant	0,89		0,50	1,59	1,27		0,92	1,76

Source: our estimates on Isfol PLUS data (Participation Labour Unemployment Survey)
*Symbol * shows a significance level $\alpha \leq 0.05$*

5. Some concluding remarks

In recent years, the overall situation is dramatically changed: family models are changed, the dynamics of labour market incoming and outgoing is changed, welfare state system – especially the mechanisms of pension system – has been reorganized.

For these reasons, in order to verify the "health" of economy – and in particular of labour market – analysing simply data in a certain instant appears to be increasingly less useful. On the other hand, it appears necessary rebuilding (in a continuous time) the work patterns of each individual involved in this process.

From the studies carried out, we infer some interesting causes for reflection on aspects sometimes already known in literature – such as the rigidity when passing from one condition to another, the influence of gender or qualifications on the probability of experiencing unemployment periods. Nonetheless, not always the intensity of the impact of such aspects is properly highlighted.

In this context, it appears fundamental to analyse not only younger workers, who have trouble to enter labour market well-known in our Country, nonetheless appear to be "defended" in some way by both regulations and household protection, but also adult workers, whose prolonged unemployment affects both current levels of wellbeing and especially potential future pension flows.

To conclude, it is necessary point out that such rapid evolution of training, information and market systems is not always associated with proper availability statistical data fit to quantify and trace individuals' job careers. In the last few years, also thanks to the gradual digitalization of administrative data and to the improvement of available IT systems, such shortages have been overcome by crossing sample data and administrative data. It is obvious that every possible upgrade of available data is welcomed, but it is necessary to be careful to cross data that could lead to potentially biased estimates. We hope for the setting up of purposely-built surveys, which will allow examining in detail individuals' job careers.

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SUMMARY

Work History Patterns in Adult Workers

Discontinuity in job careers affects not only young people but also adult workers, whose prolonged periods of unemployment influence not only current income levels, but also future pension expectations.

The attention paid to adult workers depends on the fact that, whereas in a family a precarious young worker is a serious problem, it is much worse if "parents" lose their job for at least two reasons: on the one hand an adult encounters much more difficulties to find a new job (he/she costs more than a young person, is reluctant to job transfers, it is more difficult he/she can acquire new skills as age raises, etc.); on the other hand parents often guarantee household support (not only in economic matters) in those recurrent cases where sons lose their job, thus representing, de facto, a real social welfare structure.

The analysis carried out in this paper shows a very composite picture, characterized by extreme rigidity to changes in job conditions and where qualifications, gender and residence seem to be the variables that exert the greatest impact on the probability of remaining unemployed.

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